

# MOTOR AGE

## PLANS ALL MADE, NOW FOR THE GLIDDEN



GLIDDEN TROPHY



HOWER TROPHY

### GLIDDEN DAYS IN DETROIT

Friday evening, July 9—Detroit Automobile Dealers' Association tenders a banquet to the A. A. A. officials and directors.

Saturday, July 10—9:00 to 12:00, motor car manufacturers' reception at the factories; 1:00 to 3:00, street parade of decorated motor cars; 3:00 to 4:30, ball game and athletic sports at Belle Isle; evening, entertainment of the executive board of the A. A. A. at home of the Automobile Club of Detroit, Pine lake; band concert on the Campus Martius.

Sunday, July 11—River and lake excursion on steamer City of Cleveland; lunch served on board from 12:30 to 2:30.

Monday, July 12—Start of sixth annual Glidden tour, accompanied by band music, military salutes, etc.



CITY OF DETROIT TROPHY

**D**ETROIT, Mich., July 6—The fourth annual tour of the American Automobile Association, which this year is billed to run from Detroit to Kansas City via Chicago, Minneapolis and Denver, starts from this city next Monday morning, and in anticipation of the event the motoring clans are beginning to gather, for Detroit is going to make every effort to win undying fame as a host. It is hardly likely that the Gliddenites will begin pouring into the city for a day or so yet, but

they'll all be here by Friday, when the fun commences.

Advance gossip shows that nearly every entrant has made his plans, selected his driver and picked his passengers. Chairman Hower has not arrived as yet, but from his office comes the official list of entries, which, however, may not be complete. At the present time there are forty-six cars booked to go on the tour. Eighteen of them are in the Glidden, sixteen in the Hower, three only are after the beautiful Detroit trophy, five are non-

contestants and four will carry officials. Of those nominated to battle for the Glidden and the Hower four have been scratched, although not officially. The Dayton Motor Car Co., which had two entries in the Glidden and Hower, writes it has been unable to complete the four 1910 Stoddard-Daytons in time, so it will not be represented.

"We had believed that a very great deal of value was to be derived from the Glidden event in the development of our new models," the company writes, "and in view of the fact that these cars were not completed until the very last minute we are prompted to withdraw them from this year's contest through the west."

Other bits of gossip come floating in. The Pierce-Arrow people send their book-



CITY HALL AND MAJESTIC BUILDING IN DETROIT WHICH WILL FIGURE IN TOUR START

ings. On one of the 6-48 touring cars in the Glidden the driver will be Forbes S. Dey, of Kansas City, with E. M. Grady, of Denver, as mechanic; George M. Davis, of Buffalo, will be the passenger and C. M. Babbitt, of Buffalo, is named as observer. On the other 6-48 will be Walter F. Winchester, of Buffalo, driver; A. A. Ledermann, Utica, N. Y., mechanic; E. G. Westlake, Chicago, passenger; George M. Dutton, Chicago, observer. John S. Williams, of New York, will drive one of the 6-36 runabouts, with Andrew J. Hettrick, of Philadelphia, as mechanic, and Edward McCurdy, of Pittsburg, as observer. Charles Schofield, of Detroit, will drive the other runabout, Frank Jungjohann, of Davenport, Ia., will be the mechanic, and Lucien Lyons, of New Orleans, will be the observer.

The Chalmers-Detroit drivers are William Bolger on the touring car, J. Bemb on the pony-tonneau car and J. Machesky on the roadster. A non-contesting Chalmers will carry Harry L. Bill, manager of the contestant department, who will drive; Harry W. Ford, advertising manager; Lee Anderson, of the Detroit News, and J. H. Fulton, of the Chicago Record-Herald.

#### Moline Dreadnaught Squadron

Frank Stineman will drive the Hupmobile, while the company has named A. E. Nelson, designer of the car, as its observer. Car No. 100, Moline, will be driven by C. H. Van Dervoort, with Dan Neal for mechanic. Harry Oldefest is named as observer. Car 101, Moline, will be driven by J. A. Wicke, with C. A. Lane for mechanic. J. F. Reno is named as observer. Car No. 102, Moline, will be driven by Sylvester Gregory. F. G. Salisbury will be the mechanic and H. C. Kellogg observer. W. H. Van Dervoort also will be on the tour. The three cars are styled

the Moline Dreadnaught squadron. Each will be painted London smoke color and the crews will be dressed in mohair uniforms of the same color.

The only high-wheeler in the tour will be the McIntyre, which will be driven by Frank Goodwin, of Auburn, Ind., who will be accompanied by Harry McIntyre, son of the president of the W. H. McIntyre Co. The motor in the McIntyre is a double-cylinder of the opposed offset type, with  $4\frac{3}{4}$ -inch bore and  $4\frac{3}{4}$ -inch stroke, developing 16-18-horsepower. It is chain-drive and planetary transmission is used. A. Y. Bartholomew, the entrant of the Glide, will have it, and he will have

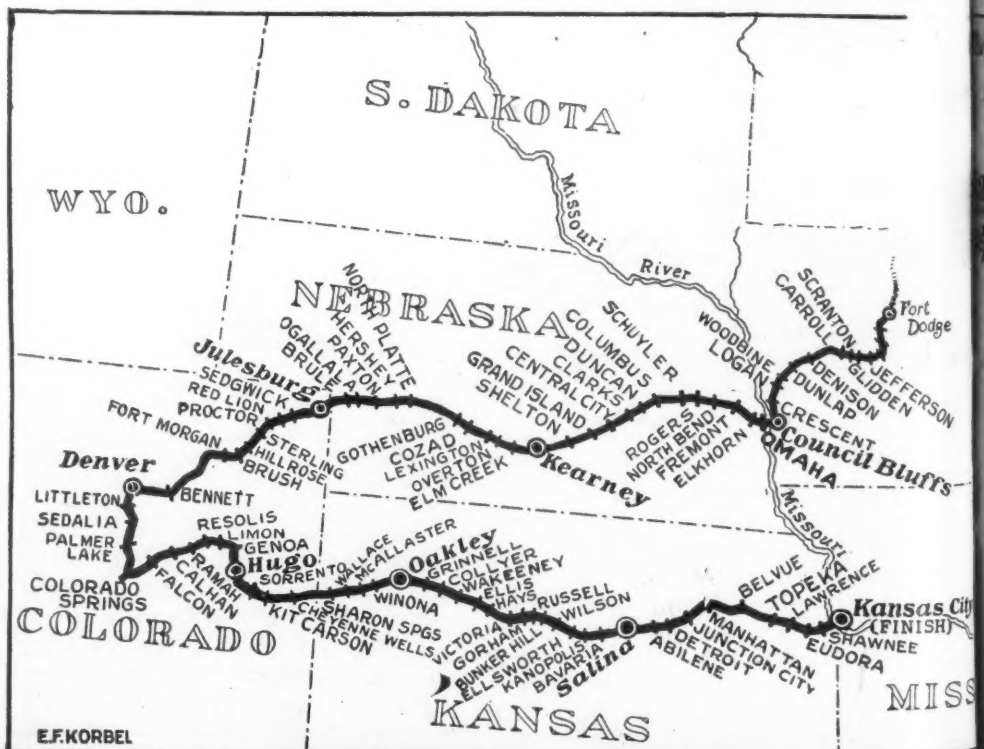
Henry Kupel as his mechanic. He has named L. C. Wheeler as observer. H. N. Searles will drive the White on the tour, while the Rapid truck will be handled by Frank Grogan. T. P. Myers, W. A. Somerville and W. State, of the Goodyear Tire and Rubber Co., will be the passengers. The Rapid again will carry the Goodyear air bottles. Roy Snyder will drive the Mason and Fred C. Claiborn will be the company's representative.

#### Detroit Makes Its Plans

Detroit, Mich., July 4—For the first time since it assumed its position of prominence in the motoring industry, Detroit is preparing to welcome a series of events which will allow it as a municipality to show the loyalty to the interests which have, in recent years, added so materially to its prosperity. The celebration of the start of the Glidden tour, which will take place Monday, July 12, will start on the Friday evening preceding and will be carried out, weather permitting, in a manner which will make the occasion a memorable one, not only in local annals but, as well, in the history of motoring.

The gathering which will take place during the celebration of what has locally been styled as Glidden days promises to be the most important of the motoring year. Not only will the Glidden tourists get on their way in the most important competitive event of the year but many other important gatherings will share its luster.

A meeting of the A. A. A. will take place here on Saturday, the affair having been transferred from New York; there will be important meetings of both the licensed and independent manufacturers; retail dealers from all parts of the coun-



OFFICIAL MAP SHOWING ROUTE THE GLIDDENITES WILL FOLLOW ON THE FOURTH ANNUAL TOUR

try will make the week the occasion of their annual spring trip to the manufacturing center, and the crowds of sight-seers, a regular feature of Detroit in the summer time, will be swelled by those attracted to the scene of the famous event and to participate in the festivities of the occasion as spectators.

#### Six Months' Preparations

When, on Monday, the big field of cars has at last been sent off by the official starter and the tour shall have been formally begun, Detroit will have accomplished a feat which has been the outgrowth of 6 months and more of active campaigning. The manufacturers inaugurated the movement to bring the start of the tour to Detroit early in the winter. The D. A. D. A. took it up later on and made such representations to the A. A. A. that the proposition could not well be turned down. Supported by a large number of conditional promises to enter cars made by the Michigan factories, they pledged the entertainment which has now been arranged. As soon as the tour was formally awarded the local dealers took charge of the details. President George E. Lane immediately appointed a committee, of which Charles Grant is chairman, and the committee secured the services of John Gillespie as secretary and placed him in charge of the details. A fund of \$8,000 has been raised as the basis of the celebration, local manufacturing and retailing firms donating the largest share, though many of the Detroit wholesalers and business houses also chipped in liberally. The whole city fell in with the plan. As a result, the committee has been enabled to go ahead without reference to expense and assured by the virtually unanimous testimony of the



HOTEL PONTCHARTRAIN, DETROIT, AND SQUARE WHERE CARS WILL BE PARKED BEFORE START

merchants in the retail district, that the central portion of the city would blaze out with welcome to the visiting motorists.

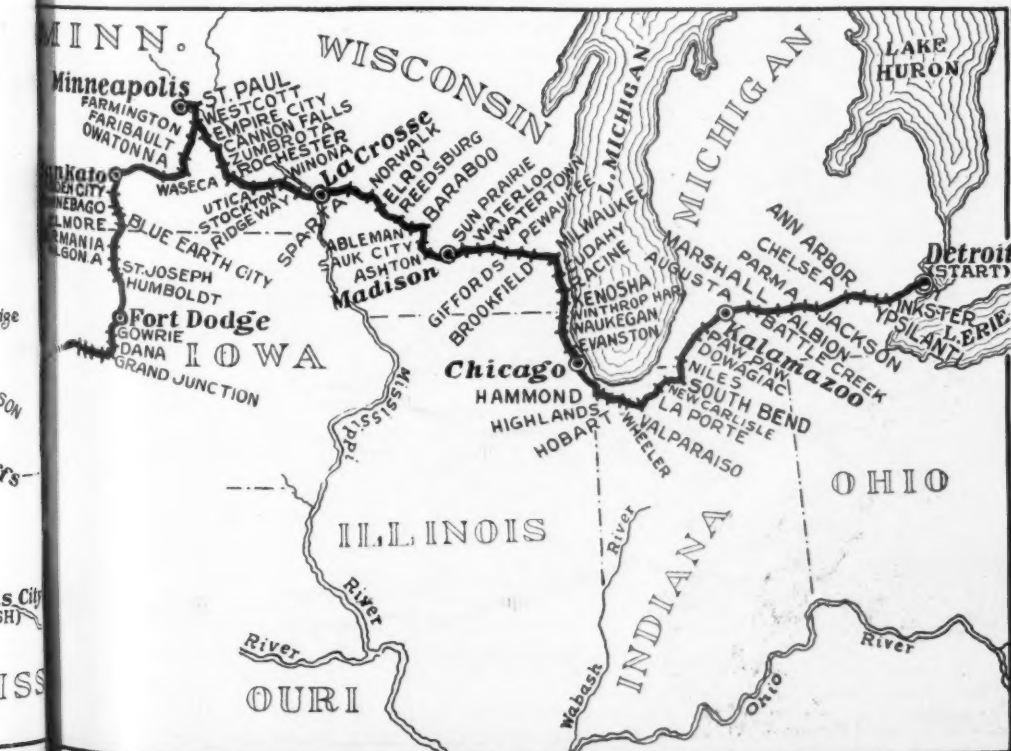
#### Plans For Entertaining

An elaborate banquet at the Hotel Pontchartrain, the headquarters of the A. A. A. during the days preceding the tour, will take place Friday evening. Invitations have been issued to the number of 300 and Mayor Breitmeyer, of Detroit, who, in private life is a florist, will personally see to the decorations. The directors of the A. A. A. will be guests of honor; President Lane, of the D. A. D. A., will preside, and a feature will be the

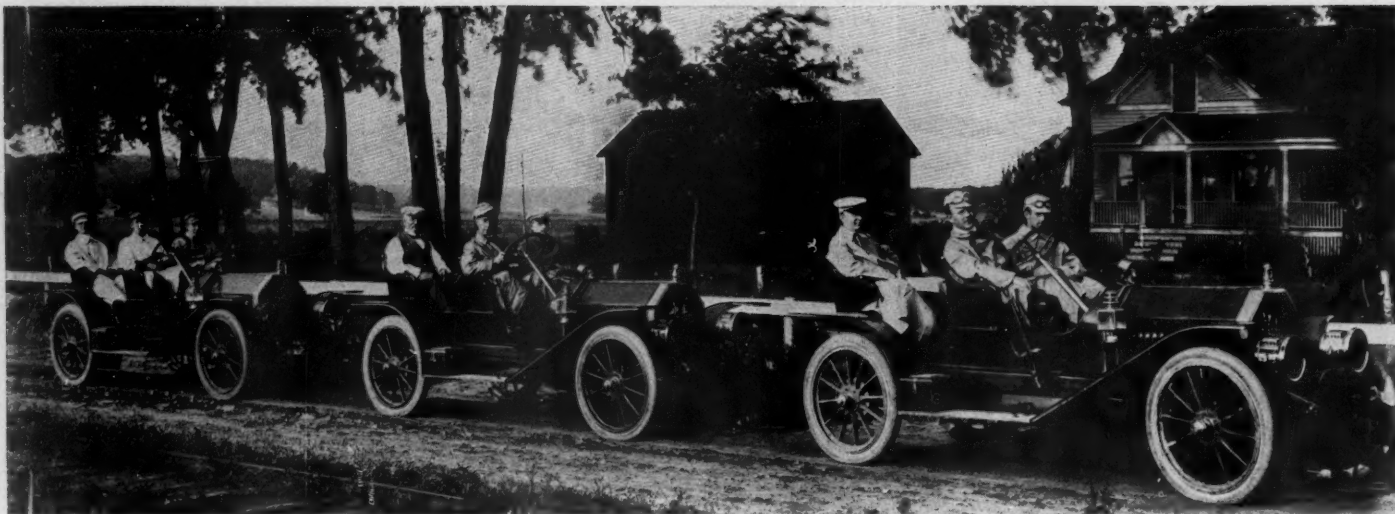
presentation of the keys of the city by Mayor Breitmeyer to Chairman F. B. Hower, of the contest board.

On Saturday morning a fleet of cars from the local garages will arrive at the Pontchartrain for the purpose of taking the visiting motorists on a tour of the factories. This trip will be made on a schedule and the factories will be in readiness. Lunch will be served at the plant of the Detroit Steel Products Co., Morgan & Wright will present still another form of entertainment and the Packard, Chalmers-Detroit, Cadillac and other firms will all hold open house.

The big event of the celebration is scheduled for Saturday afternoon in a parade of decorated motor cars and floats. This, it is believed, will be the largest gathering of its kind on record, with 2,000 or more cars in line. The parade will form on the streets crossing Woodward north of the boulevard, 100 cars being debouched in each street on either side. Secretary Gillespie has made a record as an organizer in local politics and expects to have the event managed on lines of a similar order. The Detroit Motor Cycle Club has donated its services as aides and the whole body will move together down Woodward avenue through the retail district to Jefferson, thence out that street to Mt. Elliott whence, by a short detour necessary on account of repaving, it will lead to the Belle Isle bridge approach. Here will be located the reviewing stand from which A. A. Griffith, director of the Detroit museum of art, with his assistants will judge the cars and decide on the apportionment of the \$1,000 worth of prizes, donated by the Automobile Club of Detroit. At the parade ground on Detroit's immense park, the cars will be drawn up for a panoramic photograph, a copy of which is promised



FOURTH ANNUAL TOUR OF THE AMERICAN AUTOMOBILE ASSOCIATION FROM DETROIT TO KANSAS CITY



MOLINE CARS THAT WILL PARTICIPATE IN GLIDDEN TOUR, READY TO START FROM FACTORY

to each participant in the giant parade. Following the parade there will be an athletic field day on Belle Isle, games being carded between the teams from Detroit factory employees. A tug of war between the picked teams of the factories on the east and west sides of the city, a marathon race open to employes of the various factories, and other events are included on the program.

At the athletic field the executive board of the A. A. A. will be taken in charge by the committee on entertainment of the Automobile Club of Detroit and whisked out to the home of that organization, 20 miles north of the city, where an especial entertainment has been provided. A novel feature in the evening will be a concert by the Maxwell-Briscoe band from the Newcastle, Ind., factory. The organization which comprises thirty pieces will

be seated in a specially-constructed stand on the steps of the city hall.

On Sunday the visitors will be the guests of the city of Detroit on an excursion up the Detroit river, through Lake St. Clair, and past the famous fresh-water Venice, the St. Clair flats. The steamer City of Cleveland has been chartered for the occasion and luncheon will be served in its ample dining room to the Glidden motorists and their friends.

#### Will Park Glidden Cars

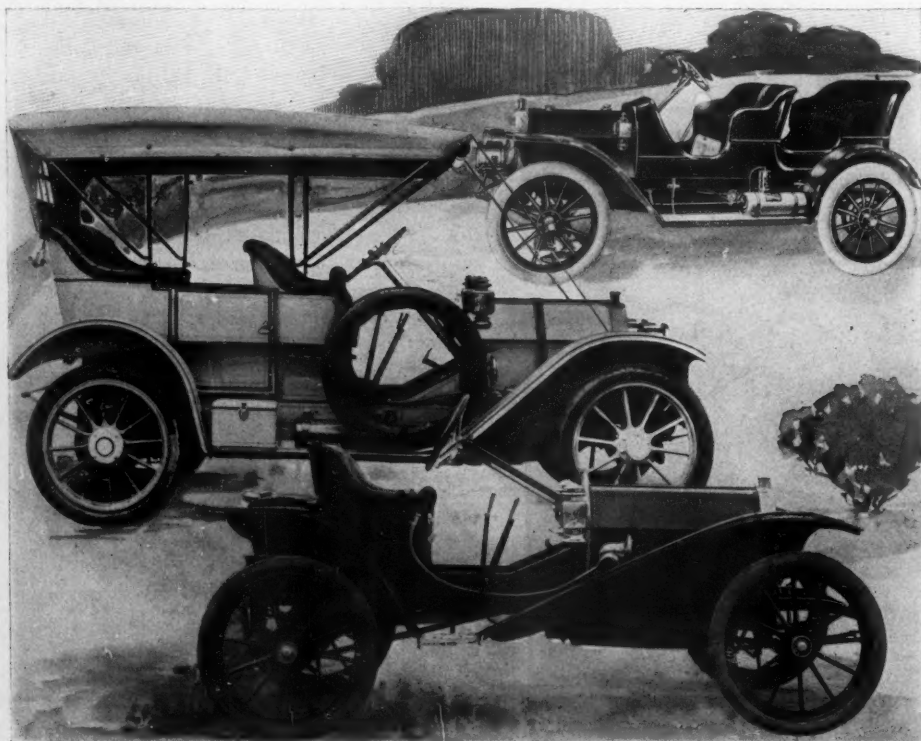
All this time the cars entered in the tour—the real magnets which have drawn the crowd to the scene of the start, will have been lying parked on Cadillac square across from the Pontchartrain and between the city hall and county building. On Monday they will be called on to do their part in the culminating event of the celebration. Business will be virtually

suspended in Detroit Monday morning. Through a lane black with people the first car will get under way at 9 o'clock, standard time. It will be saluted as it starts on its long trip by a cannon shot from one of the guns of the Michigan Naval Reserves, famous for their work in the Spanish war, who will turn out in force and patrol the scene of the start of this great motoring contest.

Present indications warrant the belief that the crowd that will speed the tourists on their way at the starting point and along Michigan avenue out which the route of the tour leads on its long route to Denver, will be the largest that has ever participated at such an event. The tour itself promises to eclipse the records of any years in the recent history of the classic event.

#### Great Time Anticipated

Buffalo, N. Y., July 3—Since the Glidden tourists traversed French Canada and drove down through Maine, in 1906, and found everywhere along the route the countryside alive with the populace from 52 miles around to welcome them, there has not been in the conditions so much invitation for non-contesting cars to join this annual classic, just for the sport of it, as there is this year. Almost it would be worth while going along for the sake of participating in the festivities being arranged at Minneapolis, where 2 days are to be spent. At Denver, where 2 days more are to be put in, there will be another enthusiastic welcome, alone worth the price of admission. The citizens of Minneapolis, headed by the Minneapolis Automobile Club, have raised a fund of several thousand dollars and appointed a committee of entertainment, headed by Colonel F. M. Joyce, president of the state association, to give the tourists a large time. It will astonish some eastern motorists to learn that the Minnesota A. A. is now the second largest state organization in the country. At Denver the same preparatory conditions prevail as at Minneapolis and at every night stop



MARMON, MASON AND HUMMOBILE, GLIDDEN ENTRANTS

along the route there is promised a rousing welcome. The program arranged at Minneapolis is as follows:

#### FRIDAY, JULY 16

Reception of tourists and escort to hotels.

#### SATURDAY, JULY 17

Forenoon—Trip in chartered trolley cars to Minnehaha falls and Fort Snelling, where a special dress parade and guard mount will be held.

Afternoon—Special train leaving Union station at 2 o'clock for Savage, Minn., where a special matinee race will be held between Dan Patch and Minor Heir, the two fastest horses in the world, at the home of these champions.

Evening, 8 p. m.—Illuminated motor car parade for the visitors through the city and over the parkways and boulevards. Charles J. Glidden, Frank B. Hower and Governor John J. Johnson will act as judges to award the prizes to the contestants in the parade.

#### SUNDAY, JULY 18

9 a. m.—Motor car trip to Lake Minnetonka.

10 a. m.—Cruise around upper and lower lakes in chartered steamers.

1 p. m.—Dinner at Tonka bay hotel.

2 p. m.—Motor car trip through the country near Lake Minnetonka.

4 p. m.—Country club, where buffet lunch will be served and a band concert by the Fort Snelling band enjoyed.

#### MONDAY, JULY 19

Escort by club members of the tourists on the road to Mankato.

One of the features illustrative of the thoroughness with which details are being executed is found in the fact that the club has ordered 400 very handsome gold and enamel cap badges, one to be presented to each of the participants in the tour and is also having printed a beautiful souvenir book of views of Minneapolis for distribution, each book properly addressed and stamped ready for mailing to the home of each recipient, after its inspection.

Chairman Hower today was informed that the Premier official car which will carry him, C. J. Glidden and E. L. Ferguson, secretary of the A. A. A. contest board, had left the factory at Indianapolis and would be on the job at Detroit. Ray McNamara will drive the chairman's car, which is painted the regulation battleship gray, as are the three Premiers that will participate in the tour as contestants. No. 1 Premier is a 40-horsepower car that will be driven by Webb Jay, famous once as a race driver and now the Premier agent in Chicago. Harry Hammond will drive No. 2 Premier. The Premier that is in the Detroit trophy division will carry No. 53 and is of the clubman type.



TWO OF THE CHALMERS-DETROIT GLIDDEN CARS

Following is the official list to date. These numbers are subject to change as some have indicated they may go for another trophy than as here shown:

#### GLIDDEN TROPHY

Car No.	Entrant	Car
1	H. O. Smith.....	Premier
2	G. A. Weldely.....	Premier
3	.....	Chalmers-Detroit
4	W. C. Marmon.....	Marmon
5	Frank E. Wing.....	Marmon
6	.....	E-M-F
7	.....	E-M-F
8	.....	E-M-F
9	E. G. Gager.....	Maxwell
10	O. P. Bernhart.....	Jewel
11	Charles Clifton.....	Pierce-Arrow
12	Charles Clifton.....	Pierce-Arrow
14	A. Y. Bartholomew.....	Gilde
15	Gus G. Buse.....	Thomas
16	A. E. Montgomery.....	Midland
17	.....	Stoddard-Dayton
18	.....	Stoddard-Dayton
19	Walter C. White.....	White

#### HOWER TROPHY

100	W. H. Van Dervoort..	Moline
101	W. H. Van Dervoort..	Moline
102	W. H. Van Dervoort..	Moline
103	Frank Briscoe.....	Brush
104	Frank Briscoe.....	Brush
105	.....	Chalmers-Detroit
106	.....	Hupmobile
107	Charles Goldthwaite..	Maxwell
108	Charles Clifton.....	Pierce-Arrow
109	Charles Clifton.....	Pierce-Arrow
110	W. H. McIntyre.....	McIntyre
111	.....	Stoddard-Dayton
112	O. P. Bernhart.....	Jewel
114	F. S. Duesenberg.....	Mason
115	Fred N. Coates.....	Exington
116	.....	Stoddard-Dayton

#### DETROIT TROPHY

51	.....	American Simplex
52	.....	Chalmers-Detroit
53	H. O. Smith.....	Premier

#### NON-CONTESTANTS

75	.....	Rapid truck.....
76	Motor Age and Auto-mobile .....	Thomas
77	Diamond Rubber Co....	.....
78	B. F. Goodrich Co....	.....
79	Press .....	.....
80	Press car.....	Maxwell

#### OFFICIAL

98	Pilot .....	E-M-F
99	Chairman's car.....	Premier
97	Pilot .....	E-M-F
96	Secretary and starter.	Acme

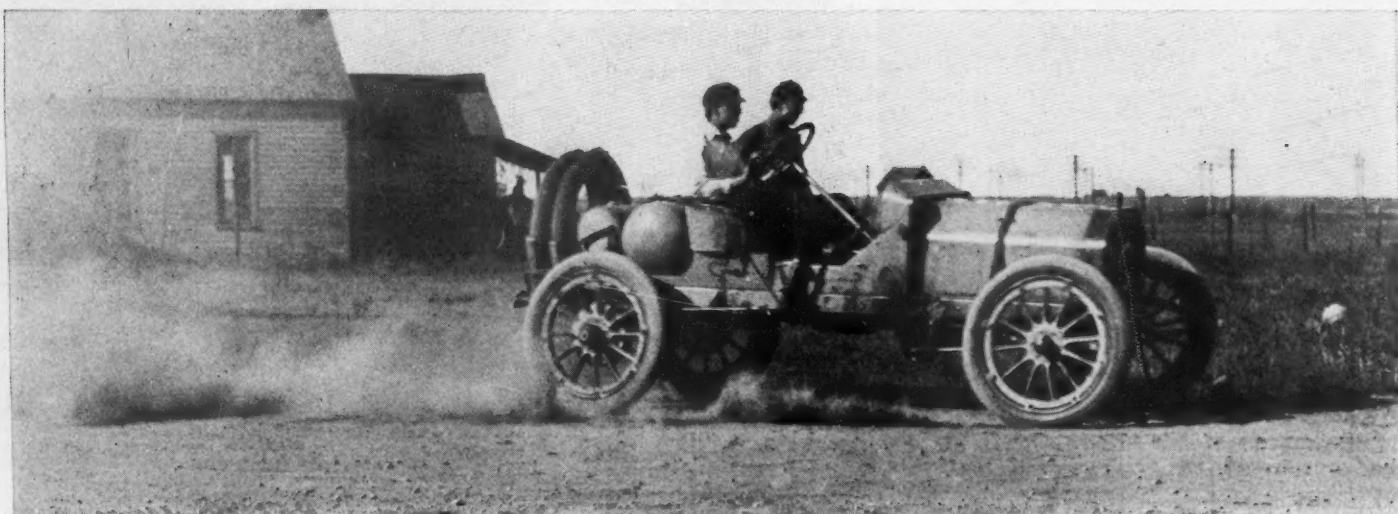
#### Kansas City's Plans

Kansas City, Mo., July 4—The program decided upon by the Kansas City Automobile Club for the entertainment of the Glidden tourists on their arrival here July 31 has been almost completed. Six events are scheduled for Elm Ridge, where the races are to be held, including the following: A 50 and 25-mile race for cars costing from \$1,500 up; a free-for-all 10-mile race, a 10-mile race for the board of trade cup, a 5-mile race for stock cars costing from \$800 to \$1,500, and a woman's obstacle race, for which a prize has not been definitely decided upon. Entries so far received include three Buicks with Chevrolet, Strang and Burman for drivers; three Chalmers-Detroits, with Matson, Poole and Knipper for drivers; one Locomobile, driver not named; one Stoddard-Dayton, driver not selected; one Stearns, with Charles Soules driving, and one Knox, driver not selected. Two other manufacturers have entered cars—the Welch and Corbin—providing drivers can be secured in time. Convention hall, one of the largest of its kind in the United States, will probably be secured for parking the cars, and if secured, the technical committee will make its final examination of the contestants. There also will be drives over the city between the arriving time and the day of the races.



GLIDE CAR AND MCINTYRE HIGH-WHEELER THAT WILL PARTICIPATE IN THE GLIDDEN

# DENVER ROAD RACE WON BY THE COLBURN



E. McMILLAN IN COLBURN CAR THAT WON THE DENVER ROAD RACE

DENVER, Colo., July 5—A Colorado-made car, a Colburn, driven by a Colorado man, Eaton McMillan, won the 290-mile speed race over the Brighton course this afternoon in 7 hours 26 minutes and 24 seconds, in the presence of 20,000 spectators. Harold Brinker, driving a Moon car, was the favorite in the race, his pluck and daring winning for him the plaudits of the entire crowd. When Brinker crossed the tape the winner in place but not in time, the cheering lasted for fully 10 minutes. Had it not been for an accident to his car on the last lap of 14½ miles, Brinker would have been crowned the winner.

For more than 9 hours the vast throng, attracted by the annual race of the Denver Motor Club, lined the course and finally was rewarded by seeing McMillan in a Colburn car win the classic event from Brinker. The victory was gained in the last lap, Brinker up to that time having a lead of 7 minutes over all the other competitors.

## No Casualties Occur

No casualties occurred to mar the pleasure of the day, not a single one of the drivers or mechanics who struggled from 11 o'clock in the morning until after 6 at night suffering anything more serious than the nervous strain occasioned by the task of steering a machine going at racing speed.

The credit for pluck must be awarded to the occupants of the Marmon car, which upset about half a mile from the starter's flag. Morris C. Martin, the driver, with C. D. Martin, his mechanic, had just rounded the curve and bumped high over the B. & M. railroad tracks ready to turn up the stretch for the long hill to Peanut Hollow, when the knuckle on the steering gear broke and the car struck a deep puddle of water. A dull blur flashed through the air as the car rose high from the ground, shot over and fell upside down in the turf alongside the road. Luck was

with the occupants, and they alighted unhurt about 20 feet from their car. The two were up at once and rushing to their machine turned it over in the hope of starting anew. But with both front wheels broken and the steering gear smashed to splinters the task was hopeless.

A message was sent to Denver and a stock car sent out, from which the entire front axle and wheels, with the steering gear, were stripped and attached to the wrecked car, which again, eight laps in the rear, took up the pace. But the race was fated not to be theirs, because after eight laps of fast driving the front wheel again broke. The machine pitched into a ditch, but again its occupants were unhurt.

The race demonstrated the fact that it is the man and not the machine that wins the favor of the crowd. Brinker, who has long been the idol of the Denverites, was easily the favorite. The greater portion of the crowd fervently hoped for his success and cheered frantically when he drove under the wire a winner in appearance, though not by time. The Colburn car, though built in Colorado, failed to arouse the enthusiasm that Brinker created. McMillan, its driver, was not so well known to the crowd.

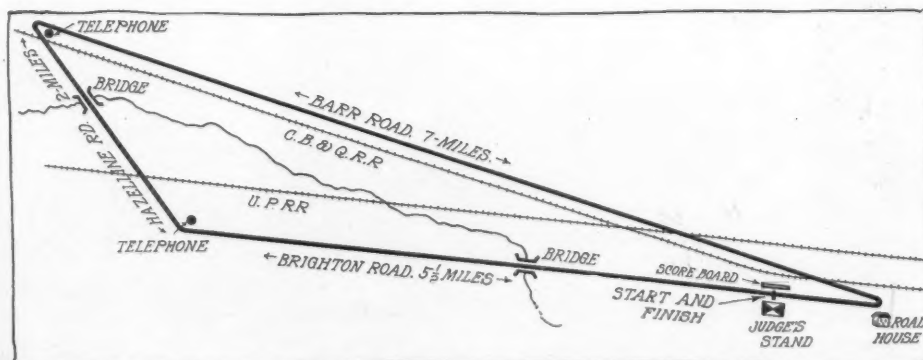
When the race began Brinker, in the Moon, flashed down the road, cut loose at the turn, and with a splash and a jump

shot like wildfire up the hill. At minute intervals followed the Chalmers-Detroit, driven by William Knipper; the Marmon, with Morris Martin; the Oldsmobile, with Martin Fletcher; the Colburn 40, with the winner, Eaton McMillan; the second blue racer Chalmers-Detroit, with Joe Matson, winner of the Indiana trophy race 2 weeks ago, and last the Colburn 30, driven by E. N. Noyes.

## Matson Has Magneto Trouble

The race early developed into a contest between the blue racers and the Moon car, but Matson's car had magneto trouble and went out. Knipper continued with his for thirteen laps, when Matson replaced him at the wheel. Then the Colburn car which had been running steadily and cautiously all day, began to draw up with the flying leaders and on the fifteenth lap rushed past the stand a leader by 3 minutes. It lost a minute on the next lap and on the seventeenth was passed by Brinker, who continued ahead until the last lap. Neither of the first two cars changed its tires during the race.

Cautious on the curves and ruts, McMillan gave his machine no chance to become injured during the race and with the machinery in perfect condition was ready to throw wide the throttle and exert himself to the limit for the last dash around the 14-mile circuit. And dash he



MAP OF THE DENVER ROAD RACE COURSE

did, cutting down Brinker's lead of 7 minutes and winning by a margin of 2 minutes.

Sunday's rain had filled the low places in the road with water and the drivers were splashed from head to foot with mud. A slight rain fell about 5 o'clock in the afternoon, but it was not heavy enough to interfere with the drivers, though it drove many of the crowd to the cars and home. The detailed story by laps is as follows:

**First Lap**—Moon No. 5 was the first car off, followed a minute later by Chalmers-Detroit No. 2, with Bill Knipper up. Marmon No. 3, the third starter, made the turn at the Model, crossed the railroad, broke a steering knuckle and went into the ditch. The driver and mechanic were thrown from the car, but neither was injured. A new part was secured from another car and 3 hours later the car was again on the track. Chalmers-Detroit No. 4 made the best time of the lap, 20:21.

**Second Lap**—Chalmers-Detroit No. 3 made the best time, 21:18, with Moon No. 5 a close second in 21:37, and Colburn No. 6 in 7 seconds longer. Oldsmobile No. 2 broke a bolt in a bearing, causing a delay of about 25 minutes.

**Third Lap**—Chalmers-Detroit No. 4 continued its sensational speed, making this lap in 20:10. Brinker in the Moon did it in 21:28. The Marmon No. 1 made the second best time of 21:14.

**Fourth Lap**—The fastest time made for this lap was by Billy Knipper in Chalmers-Detroit No. 4, who set the record at 20:02. Fletcher in Oldsmobile No. 2 was second, his time being 20:49.

**Fifth Lap**—Chalmers-Detroit No. 4 in 20:27 again led. Colburn No. 6 began to show speed in this lap, making the distance in 20:43.

**Sixth Lap**—Colburn No. 6 kept up its speed, making the best time, 21:03, Chalmers-Detroit No. 4 was second in 21:22, and the Marmon No. 1 followed in 21:29. Chalmers-Detroit No. 3 had magneto trouble and withdrew.

**Seventh Lap**—All the contestants made slow time in this lap, Colburn No. 6 leading in 22:59, while Colburn No. 7 showed symptoms of speed by covering the course in 24:26. Marmon No. 1 withdrew at the end of the seventh lap.

**Eighth Lap**—Brinker came into his own again as a popular idol by making this lap in 21:24, but he was closely followed by Colburn No. 6 in 21:31.

**Ninth Lap**—Chalmers-Detroit No. 4, driven by Knipper, cut the record to 19:48, while Oldsmobile No. 2 covered the course in 20:17 and Colburn No. 6 followed in 20:21.

**Tenth Lap**—Chalmers-Detroit led in 20:16, with Oldsmobile No. 2 second in 20:39.

**Eleventh Lap**—A spurt of speed on the part of Colburn No. 6 gave it the record for his lap, the time being 20:17, Oldsmobile No. 2 following in 20:45.

## Sixteen Events On Chicago's Hill Card

Chicago, July 3—Sixteen events will be contested at this year's hill-climb of the Chicago Motor Club, which will be held at Algonquin August 5, an increase of five over last year. This in reality means thirty-two climbs, for the affair is held on two hills, one in the morning, a standing start effort, and the other in the afternoon when the cars tackle another grade with a flying start. Both hills count, however, in deciding the winners. Six of the classes will be decided under the Chicago Motor Club formula in which the cylinder capacity is multiplied by the time and that result divided by the weight of the car with driver. The classification is to be by piston area, the program adopted at yesterday's meeting of the contest board being:

### DIVISION 1, HANDICAP

Class A—One or two-cylinder cars with piston area under 50 square inches.

Class B—Four or six-cylinder cars with piston area under 50 square inches.

Class C—Four or six-cylinder cars with piston area over 50 and under 65 square inches.

Class D—Four or six-cylinder cars with piston area over 65 and under 90 square inches.

Class E—Four or six-cylinder cars with piston area over 90 square inches.

### DIVISION 2

Class F—Free-for-all, open to motor buggies, wheels 36 inches or over, solid tires.

Class G—Free-for-all, open to electrics.

Class H—Western amateur handicap championship, for four or six-cylinder cars, winner to be decided by the club formula.

Class I—Amateur free-for-all, touring cars or roadsters of any power.

### DIVISION 3

Class J—Open to any type of stock car with piston area under 65 square inches.

Class K—Open to touring cars, five or seven-passenger, with piston area under 65 square inches.

Class L—Open to any type of stock car with piston area over 65 and under 90 square inches.

Class M—Open to touring cars, five or seven passenger, with piston area over 65 and under 90 square inches.

Class N—Open to any type of stock car with piston area 90 square inches or over.

Class O—Open to touring cars, five or seven-passenger, with piston area 90 square inches or over.

Class P—Open to touring cars, five or seven-passenger, with piston area 90 square inches or over.

**Twelfth Lap**—The Moon led again in this lap in 21:88, the nearest competitor being Colburn No. 6 in 23:17.

**Thirteenth Lap**—Chalmers-Detroit No. 4 again forged ahead, making this lap in 20:33, but this time was beaten when Colburn No. 6 completed the lap in 19:49.

The railbirds began to pick No. 6 as a winner.

**Fourteenth Lap**—Knipper's eyes gave out on this lap and Matson took the Chalmers-Detroit No. 4. The Colburn No. 6 again made a sensational round in 19:40, this being the fastest lap time of the race. Moon No. 5 was then in the lead by only 48 seconds.

**Fifteenth Lap**—Oldsmobile No. 2 showed itself in good form for this lap, making a record of 20:50, while the Colburn slowed down to 22:11 and Brinker to 25:59, the Moon then being in the lead by 3 minutes.

**Sixteenth Lap**—Brinker got away with the laurels again in this lap, his time being 21:17, his nearest competitor being the Oldsmobile in 21:27. This was the last lap for the Oldsmobile, as the delays in the early part of the race had thrown it so far behind that the race was finished before it could make another round.

**Seventeenth Lap**—The Moon completed this lap in 20:26 and the Colburn No. 6 made it in 23:18, leaving the Moon ahead with a margin of 1 minute 2 seconds.

**Eighteenth Lap**—Interest now centered in the Moon and Colburn No. 6 contestants and it was a neck and neck race. This lap was made by the Moon in 21:45 and by the Colburn No. 6 in 22:22, the Moon being 1 minute 39 seconds in the lead.

**Nineteenth Lap**—The Moon gained a big lead by making this lap in 21:41, while the Colburn No. 6 occupied 26:41 in making the round.

**Twentieth Lap**—The Moon had a lead of 7 minutes, but radiator trouble caused a delay which gave the Colburn No. 6 the victory. The Colburn made the last lap in 21:14, while the Moon made it in 30:31, the Colburn winning the race by a margin of 2 minutes 38 seconds. The Chalmers-Detroit No. 4 was the only other car that completed the full number of laps, the two others still running being stopped by the referee.

The total time of the Colburn No. 6 for the 290 miles was 7:26:24, the Moon 7:29:02, and the Chalmers-Detroit No. 4 7:38:48.



HAROLD BRINKER IN MOON, SECOND IN DENVER RACE

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## Glidden a Great Tour—Legal Needs of Motorists

FOR the fourth time since the idea first was conceived of holding a national tour, the Gliddenites start out from Detroit next Monday morning for an invasion of the west, that will carry them over a trail that will pass through such great cities as Chicago, Milwaukee, Minneapolis and Denver, and wind up at Kansas City. It will be the longest tour ever undertaken by the American Automobile Association and yet it ought to be productive of the greatest results from the manufacturer's point of view, for it pierces a territory that is ready for the motoring harvest. It is not dead soil as has been the case on some of the other tours. The great west is fully alive to the motoring proposition and is ready to buy cars and to pay good prices for them. It is the stronghold toward which the maker must look for his greatest business and the indications are that he will be well repaid for his venture. As for advance enthusiasm over the Glidden, surely no other section has warmed to the proposition as has the west. Records of previous years fail to show so many receptions planned, so much general exuberance over the prospect of seeing the Gliddenites. West from Chicago to Kansas City, it will be a case of glad hand all the time, not to forget the efforts of Detroit in the entertainment line before the start. In this respect Detroit—if advance preparations count for anything—will eclipse all its predecessors as a host. Reading over the prospectus assures the Gliddenite of a good time from next Friday night until he again becomes a common citizen of the United States. The 1909 Glidden ought to represent the high water mark in national touring for several years to come.



SENSE, common motoring sense, is found in the suggestions made by the Automobile Club of Washington to the district commissioners for the revamping of laws governing motor cars in the capital. Of the seven offered, probably the one that strikes the keynote is the paragraph reading: "That the mounted police be instructed that their sole mission is not to watch motor cars, but, in addition, to do general police duty; they should be equally careful in watching horse-drawn vehicles and enforce the rules of the road against one as quickly as against the other." That is a whole volume in a paragraph, for it is especially noticeable in the larger cities that the police seem to feel their sole duty is to compel only the motorists to toe the mark; drivers of horse-drawn rigs can do almost as they please. They can drive on the wrong side of the street; they can face the wrong way when stopping; they can drive slowly in the middle of the road and they can turn in the middle of the block and seldom it is that a bluecoat says a word. How different if it is a motor car driver! Other good suggestions come from Washington relative to leniency and common sense being shown when, perchance a tail light goes out or a motor emits a little more smoke than the hypercritical motorphobist can stand. If the district commissioners will don the motorists' goggles for a short time and heed these suggestions their example probably would be followed by other law-makers throughout the land and in the end there might be more common sense used when it comes to framing up regulations for the control of motoring.



THE finest cars made in America are equal to the finest made in the world, and the cheaper American cars are without equals in any other country. They give more value for their cost, weight and size than any other article of manufacture on wheels. Unless the European manufacturers wake up to the importance

of the cheap-car market and produce more cheap cars and better ones, the Americans are going to sweep Europe with these machines as they now are sweeping America." Such is the way a keen critic like S. F. Edge of England views the situation in this country after a short visit, his opinion being sufficiently sensational as to be considered worthy of cabling from London. Edge's views in the matter of motor car manufacture in this country dovetail nicely with those that are held by the American manufacturers who believe that in the last few years they have made such rapid advances that now they can be considered on a par with their rivals on the other side of the Atlantic ocean. Indeed, more than one American maker has made his plans for a foreign invasion and there are several who already have gained a foothold in foreign countries. The chief difficulty, however, has been to supply the home demand; but as soon as that is attended to then the Americans undoubtedly will follow Mr. Edge's cue and give the makers of Europe fresh cause for fearing competition from the American manufacturers.



NOT many of the big cities in this country have failed to heed the cry of the orphans this year and it must be gratifying to the officials of the American Automobile Association to be able to report that orphans' day now is a national feature and that at least 40,000 of the youngsters have enjoyed the hospitality of the motorists this year. To remember the lads and the lassies in this manner requires little effort on the part of the owner of a car. A few hours once a year devoted to such charitable work ought not to be regretted and it is to be hoped that now the movement is on such a substantial basis it will not be neglected in the years to come. It ought to grow in magnitude and be a monument to motoring that will go a long ways towards silencing the outbursts of those who class motorists as a selfish lot who pay little heed to the comfort of others and who hog the roads. It is noticed that these annual outings have been broadened to include the aged, which is another good sign that the motorist is not a self-centered individual whose eyes are glued to the road, and who can see nothing else.



GERMANY is the latest to go on record as being opposed to an annual exhibition of motor cars and the Fatherland is the last important voice to join the European chorus. On the other hand it is clearly evident that America does not share in the foreign sentiment against these annual exhibitions. Already the A. L. A. M. committee is formulating its plans for the Madison Square garden affair, even in the hot mid-summer. Other evidences of activity in the show line are furnished by the fact that the National Association of Automobile Manufacturers is broadening out its national show circuit by giving Atlanta a place on it. As to the wisdom of this, one only has to point to the great enthusiasm it has aroused in the south. A \$250,000 motor speedway is being erected at Atlanta, brought about undoubtedly by the show date being given Atlanta, while the wave of good roads enthusiasm that has swept the south since the N. A. A. M. announcement should be sufficient answer to those who have been asking if it is not about time to follow Europe's example and pass up the shows. If a national show at Atlanta results in a network of good roads throughout the south, surely that ought to be well worth the cost of a dozen big shows even if they did no other good to the cause of motoring.

# LEGAL NEEDS OF MOTORISTS IN CAPITAL

WASHINGTON, D. C., July 5.—Pursuant to a resolution passed by the Automobile Club of Washington, a committee consisting of W. S. Duvall, H. Chadwick Hunter and R. B. Caverly, appeared before the district commissioners on July 2, and entered a plea for less drastic enforcement of police regulations against motorists and a modification of certain regulations. Mr. Duvall acted as spokesman for the party and made out a splendid case for the motorists. The burden of his argument was that the police department be prohibited from the drastic enforcement of certain regulations applying to motorists and from the lax enforcement of other regulations applying to other vehicles using the thoroughfares. It was his opinion that the enforcement of traffic regulations by members of the police department is of far more importance than the enforcement of the law regulating the excessive speed of vehicles. The wheel tax imposed by congress on all motor cars in Washington, D. C., was roundly denounced. The commissioners were requested to have this law repealed. Mr. Duvall offered the following suggestions, which the commissioners promised to take under careful consideration:

That the regulations as to rear lamps going out be modified, so that a driver having oil and a working light be held not responsible.

That slight infractions of the speed limit in outlying districts, and where there is no danger to others, be not made the cause for arrest.

That the emission of a reasonable amount of smoke be not noticed, and where unreasonable amounts are discharged the driver be warned.

That every vehicle after sundown be made to carry lights, visible ahead and behind, especially if they travel the park roads or beyond the fire limits.

That printed rules of the road be prepared and put in the hands of every driver of a motor car, or a horse, and that the police be instructed strictly to enforce them against both classes.

That the police be instructed that it is no violation of law for a motor car to drop a reasonable amount of oil, and that no arrest should follow.

That the mounted police be instructed that their sole mission is not to watch motor cars, but, in addition, to do general police duty; they should be equally careful in watching horse-drawn vehicles and enforce the rules of the road against one as quickly as against the other.

It is the intention of the club to follow up the above suggestions and see that they are acted upon. A campaign to have all vehicles to carry lights is being started and will be pushed to a successful conclusion by the club.

## Edge Praises America

Chicago, July 1.—The visit to this country of S. F. Edge, in connection with Napier business must have impressed the English motorist greatly, for since he has returned home he has been singing the praises of America. A cable to the Daily News quotes Edge as follows: "S. F. Edge, the well-known British motorist, has returned from America enthusiastic over the rapid development of motoring in that country. 'Nearly everybody in America is going in for some sort of car,' he said to the Daily News correspondent today,

## Automobile Club of Washington Tells Law-Makers What Should be Done With Rules

'and the fever has reached the remotest villages in the farming regions. Many farmers have learned that the motor car is not only a great machine for pleasure, but an even more important means of pushing modern business. Gasoline sooner or later in large measure will supersede the horse in hauling grain to market and drawing heavy plows. American manufacturers of cars are close students of the demands of public conditions in the country. They are also ingenious, inventive and immensely enterprising. The finest cars made in America are equal to the finest made in the world, and the cheaper American cars are without equals in any other country. They give more value for their cost, weight and size than any other article of manufacture on wheels. Unless the European manufacturers wake up to the importance of the cheap-car market and produce more cheap cars and better ones the Americans are going to sweep Europe with these machines, as they are now sweeping America. The Yankees have lots of bad roads, but they are finding out the best way to negotiate them in motor cars. Moreover, they build cars that go after bad roads and hills like a hungry boy after popcorn.' "

## Exports and Imports

Washington, D. C., July 5.—A new record in the motor car export trade was made during May, when 519 cars, valued at \$816,450, were shipped to various foreign countries. During the same month of last year the number of cars exported was 229, valued at \$389,487. During the 11 months' period ending May the number of cars shipped abroad increased from 2,206, valued at \$4,008,724, in 1908, to 2,607 cars, valued at \$4,340,165, in 1909. The exports of parts declined in value from \$69,570, in May, 1908, to \$60,427, in May last, and from \$558,401 to \$536,171 during the 11 months' period. Cars and parts were shipped to the following countries during May last: United Kingdom, \$281,180; France, \$145,308; Germany, \$24,657; Italy, \$25,958; other European countries, \$36,037; British North America, \$281,806; Mexico, \$32,000; West Indies and Bermuda, \$20,386; South America, \$14,913; British East Indies, \$28; British Australasia, \$10,132; other Asia and Oceania, \$666; Africa, \$3,422;

other countries, \$375. One hundred and ninety-three cars, valued at \$301,971, were imported into this country during May last, together with \$72,616 worth of parts, as against seventy-two cars, valued at \$170,185, and parts valued at \$42,515, imported during May a year ago. During the 11 months' period the number of cars imported increased from 974, valued at \$2,346,613, in 1908, to \$1,493 cars, valued at \$2,659,100, in 1909. During these periods the imports of parts increased from \$428,978 to \$701,467. Cars were imported entertained. Luncheon was served in from the following countries during May: United Kingdom, 5, valued at \$12,503; France, 148, valued at \$212,396; Germany, 8, valued at \$24,468; Italy, 28, valued at \$45,475; other countries, 4, valued at \$7,129.

## Working on Garden Show

New York, July 5.—Inasmuch as the next show in the Madison Square garden does not take place until January, it probably comes as a surprise to many that heavy work of preparation is being done during the dog days. Nevertheless many people have been engaged in the work for the past several months, and the general plans of the coming exposition have been formulated by the Association of Licensed Automobile Manufacturers. Contracts are being placed for scores of car loads of lumber, for the special sheet and structural steel necessary for the installation of the show and the protection of the public; factories in various parts of the country are busy making up the required burlaps, buntings, duck, etc., for covering the walls and floors, early delivery being necessary for these materials, so that they may be subjected to proper fireproofing processes. Colonel George Pope, chairman of the A. L. A. M. show committee, of which the other members are, as last year, Charles Clifton, of the Pierce-Arrow Motor Car Co., and E. P. Chalfant, of the Packard Motor Car Co., has again announced that by additional structural work the floor space will be increased by several thousand square feet. For the 1910 garden show the width of the balcony will be increased so that it and the elevated platform will be supported by a single series of posts, enhancing the artistic value as well as giving much more room. The elevated platform which has for some years at A. L. A. M. shows been specially constructed part of the way around the garden, will at the coming show extend around the whole auditorium, the additional effect and value of which are obvious.



# CHADWICK STARS IN DASHES AT WILDWOOD

**W**ILDWOOD, N. J., July 5—A record-breaking crowd, a cloudless sky, daring drivers, a good list of entries and a fairly fast track combined to make the independence day races of the Motor Club of Wildwood the most successful so far held. Central avenue, on which the events took place, was packed with sight-seers for almost its entire length of 1½ mile. The temporary grandstands that had been erected at the finishing line were unable to accommodate the throng that clamored for admission. The local police were assisted in keeping the road clear and in maintaining order by the Ninth Company of Boys' Brigade, an organization attached to a Philadelphia church, but which is camping here. Considering the strong head wind in the face of which the cars were driven, excellent times were made. The best performance of the day was by Lew Zengle, in a 60-horsepower Chadwick, who, in one of the trials made by single cars against time, drove his car with the wind in 44 seconds, thereby establishing a new mark for the local course.

Previous to the races a motor parade was held on the avenue and several prettily decorated cars participated. A silver shield, donated by Charles E. Eppler, a local business man, to the best-appearing car in line was won by H. A. Bonnell, of East Orange, N. J., in his Maxwell touring car. The summary of the racing events, all 1 mile straightaway, is as follows. Event No. 2, a handicap for cars costing under \$850, and event No. 5, a special for steam cars, were omitted owing to lack of entries:

Event No. 1, open to gasoline cars only, handicap of 1 second for each \$200 in value—Al. Denison, Knox, and C. Stutz, Marion, dead heat. Time, 1:06. Chalmers-Detroit, third.

Second heat—Knox won; Overland second; Marion, third.

Event No. 3, handicap, 1 second for each \$200 in value, open to gasoline cars costing

from \$850 to \$2,000—Stutz, Marion, won; Wilkie, Buick, second; Reiss, Overland, third. Time, 1:14 2-5.

Event No. 4—Free-for-all, open to all makes and types of cars—Lew Zengle, Chadwick, won; Stutz, Knox, second; A. Denison, Knox, third. Time, :48 2-5.

Event No. 6, handicap, gasoline cars, \$2,000 to \$3,000, 1 second allowed for each \$200 in value—W. A. Bourque, Knox, won; C. J. Rogers, Chalmers-Detroit, second; J. V. W. Westervelt, Knox, third. Time, 1:08.

Event No. 7—Handicap, gasoline cars, \$3,000 to \$4,000, 1 second allowed for each \$200 in value—Hugh Hughes, Allen-Kingston, won; Al. Denison, Knox, second. Time, :58.

Event No. 8, special event, for gasoline cars only, all makes and prices, handicapped according to reputation of car and driver, first heat—Al. Denison, Knox, won; time, 1:15. Hugh Hughes, Allen-Kingston, second; time, 1:17 3-5. W. Cram, Mitchell, third; time, 1:25 2-5.

Second heat—Al. Denison, Knox, won; time, 1:13. C. Stutz, Marion, second; time, 1:16 4-5. Reiss, Overland, third.

Final heat—C. Stutz, Marion, won; Al. Denison, Knox, second; W. A. Bourque, Knox, third. Time of winner, 1:11 2-5.

Event No. 9—Time trials, each entrant granted two trials—Lew Zengle, Chadwick, first mile, :48 4-5; second trial, :44; Hugh Hughes, Allen-Kingston, :49 and :50; W. A. Bourque, Knox, :53 and :52; Al. Denison, Knox, 1:04 and :49; C. Stutz, Marion, 1:01 3-5 and 1:04; J. V. W. Westervelt, Knox, 1:07 and 1:06.

Event No. 10—Kilometer time trials, two trials to each entrant—Lew Zengle, Chadwick, won; time, :26; Al. Denison, Knox, second; time, :28; W. A. Bourque, Knox, third; time, :31 1-5.

The combined invitation, individual and club run from Philadelphia, Jersey City and Newark to this resort on Saturday, was a thorough success, the run down being declared by all to have been delightful, no accidents occurring to mar the trip and the roads being in fine condition. In the run of the New Jersey Automobile and Motor Club, of Newark, a large representation arrived under the sealed order arrangement, leaving Newark at 8 a. m., with the finishing time unknown to participants. In this run the secret time, 2:24:24, was known only by A. G. Batchelder, who had charge. This event was captured by a four-cylinder Cadillac, driven by A. G. Vogt, which arrived at 4:59 p. m., the nearest of the contestants to the time set. The club run

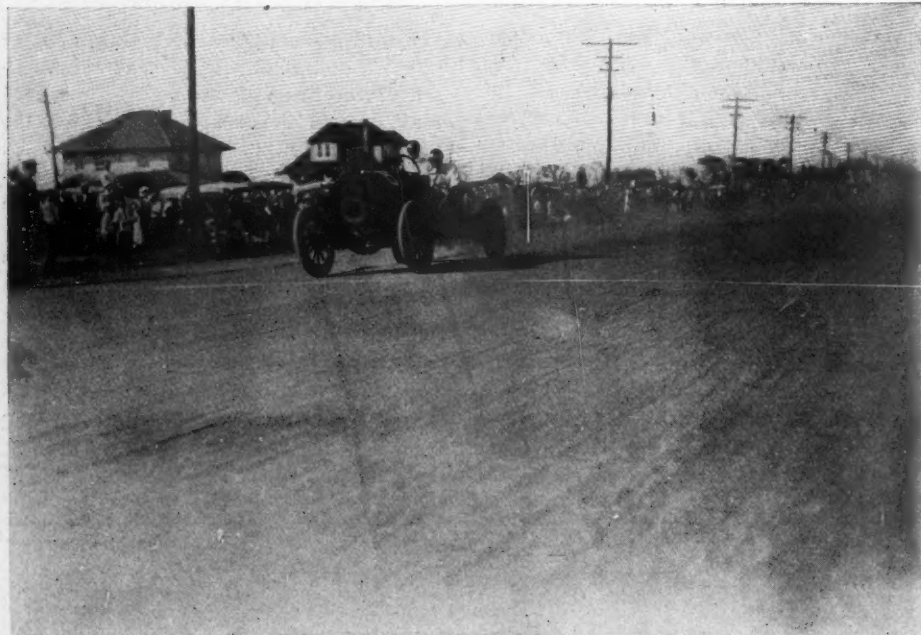
of the Automobile Club, of Hudson county, was won by a four-cylinder Mitchell, driven by J. P. Edwards, of Jersey City, formerly president of the club. He arrived here at 4:04, being nearest to the time arranged to arrive of 4:15, under the same conditions as governed the run from Newark. Owing to a misunderstanding as to the secret time for arriving here, the winner of the Philadelphia run was not declared.

## PACKARD HOLDS CONVENTION

Detroit, Mich., July 3—Superintendents of the mechanical departments of Packard dealers throughout the country have been visiting the factory of the Packard Motor Car Co. for the past 2 weeks. Meetings have been held daily at which all mechanical features of the Packard 1910 cars have been discussed, as well as the general conduct of Packard repair work and shop service for owners. The visitors also have spent much time in the factory, studying Packard methods of construction and the actual manufacture of the new models. There has been road work in new cars, and the social side of the conventions has taken the form of drives into the country for frog-and-chicken dinners seasoned with shop talk. At some of the meetings the executive, engineering, factory, sales and technical heads of the Packard company have held lively discussions with the visiting experts, thus presenting all features of car design, construction and maintenance from many points of view.

## FRANKLIN SALESMEN CONFER

Syracuse, N. Y., July 3—Reviewing trade conditions of the past year and planning for the coming season, the traveling salesmen and branch managers of the H. H. Franklin Mfg. Co. have just completed their annual summer conference at the company's factory, holding sessions daily for a week. During this period they were instructed in changes in car construction and were given a practical demonstration of the work of the 1910 models of the Franklin car, which are yet to be publicly announced. The conference was conducted under the direction of Sales Manager F. R. Bump, and the salesmen were addressed by Vice-President Giles H. Stilwell, Chief Engineer John Wilkinson, Assistant Engineer Arthur Holmes, Sundry Department Manager J. G. Barker, Comptroller H. B. Webb, Superintendent F. J. Haynes, Traffic Manager Herbert Hess and Engineer W. F. Kneip. Upon the second day the salesmen started with an inspection of the new models, and in connection with this they were given an explanatory talk by Chief Engineer Wilkinson. Immediately thereafter they set out on a demonstration trip in the new cars. Changes in engine construction and comment upon



CHADWICK MAKING ITS FAST MILE AT WILDWOOD

them were considered in detail the next day. Representatives of various departments appeared before the conferees the following day. At the conclusion of the day the participants in the conference took a 45-mile drive, going to the vicinity of Oneida and dining at Cicero. Friday was a day given to sales department matters, with a general discussion of other subjects that had been brought out in the conferences of the previous days. At the conclusion of the day's sessions the conferees were the guests at dinner of President H. H. Franklin. The last day was given up entirely to out-of-door work with the cars, the trip being made an outing.

#### WINTON CONVENTION HELD

Cleveland, O., July 3—Winton branch managers and road men enjoyed a busy convention this week. There was something doing every minute from breakfast to good-night. Baseball, field sports, a yacht ride, a theater party and a trip to Luna park were only part of the doings, which included every variety of luncheon and dinner except the formal kind. The participants were: Vice-President Henderson, Secretary Brown, Sales Manager Churchill, Advertising Manager Mears, Parts Manager Smith, Engineer Anderson, Traffic Manager Baughman, Superintendent Weidig, Purchasing Agent Ranney, and the following branch managers and road men—Messrs. Hincheliffe, of Boston; Brown, of New York; Calvert, of New Jersey; Maltby, of Philadelphia; Stockbridge, of Pennsylvania; Duck, of Baltimore; Kiser, of Pittsburg; Brockway, Sealand and Walley, of Cleveland; Henderson and McCrea, of Detroit; Davis and Roe, of Chicago; Johnson, of Minneapolis; Lewis, of Kansas; Miller, of Seattle, and Owsney and Arbuckle, of San Francisco.

#### IMPROVE BRETTON WOODS ROADS

Bretton Woods, N. H., July 3—The motoring season through the mountain is now on and the cars are coming here in increasing numbers daily. Those who have been here before will find the roads quite a surprise from previous conditions, due to the energy of John Anderson, J. D. Price, H. S. Mudgett and other hotel men who have been spending money eliminating the dangerous curves and improving the roads. This is particularly true of Crawford notch, one of the gateways to the mountains. A couple of months ago this road was practically closed to all traffic because of the many trees that had been blown down during the winter. These have all been removed, and while accomplishing this work the men in charge decided to go even further and wipe out the dangerous curves along the road. Where there were three bad turns there now remains but a few feet where the occupants of approaching cars cannot see each other. The grades have been reduced from 33 to 10 per cent.

#### Fast Century Made On Track at Columbus

Columbus, O., July 3—The Columbus track record for 100 miles was shattered at the track of the Columbus Driving Association at the 2 days meet given yesterday under the auspices of the Columbus Automobile Club. The 100 miles was negotiated in 1:44:00. Burman, driving a Buick, was the winner of the event, which was extraordinary for several reasons. One of the features of the race was the fact that Strang covered the final 7 miles with two flat rear tires, but when he saw a world's record was being broken and as he was in the lead at the time he gamely fought on, notwithstanding the tire trouble. The century record is 1:42:39%, made by Burman at New Orleans last February. Five entries started. They were: Strang, Buick; Burman, Buick; Lorimer, Chalmers-Detroit; DeWitt, Buick; Cannon, Chalmers-Detroit. Burman took the lead from the start and kept it until the twentieth mile, when tire trouble caused him to drop out to replace a tire. From that time Strang took the lead, which he kept until the ninety-fourth mile, when both of the rear tires collapsed and were thrown off. Burman, notwithstanding the fact that his rival was disabled, had to drive with all his speed to win by a quarter of a mile. DeWitt dropped out early in the race because of motor trouble, but started after some delay, only to drop out again. Both Cannon and Lorimer quit before the first quarter of the distance was traversed. Both Strang and Burman were compelled to stop three times each. Two of the stops were for new tires and Strang stopped for gasoline. Burman stopped for goggles, which he lost about the twenty-fifth mile. Other events were:

Ten miles, stripped stock chassis selling \$1,250 and under—Ralph Atkinson, Buick, won; DeWitt, Buick, second; C. C. Crumb, Re-

gal, third; H. Hoster, Hupmobile, fourth. Time, 5:45.

Ten miles, stripped stock chassis, open to drivers or cars participating in the Indiana cup races—Strang, Buick, first; Burman, Buick, second. Time, 9:52 2-5. Cannon in a Chalmers-Detroit went through the fence on the first lap and Chevrolet, Buick, withdrew because of tire trouble.

City championship, 10 miles, stripped chassis, open to residents of Columbus or vicinity—Lawrence Kelly, Packard, won; George Schlereth, Pope-Hartford, second. Time, 11:21.

Five miles, time trials—Oldfield, National. Time, 4:43 1-5.

Five miles, stripped chassis, free-for-all—Burman, Buick, won; Chevrolet, Buick, second; Lorimer, Chalmers-Detroit, third. Time, 4:45. Strang dropped out on fifth lap because of engine trouble.

Twenty-five miles, special free-for-all—Lorimer, Chalmers-Detroit, won; Burman, Buick, second. Time, :26 2-5. Oldfield retired on the tenth mile because of tire trouble.

One-hour race, free-for-all, stripped stock chassis—Burman, Buick, won; distance, 55 3/4 miles; Lorimer, Chalmers-Detroit, second.

#### FRENCH TIRE PRICES GOING UP

Paris, June 25—After July 1 the prices of pneumatic tires probably will be raised 15 per cent, but surely not less than 10 per cent. This was decided after several meetings have been held of late between leading tire manufacturers of France and Paris agents of big foreign houses. Furthermore, the several French syndicates or associations of tire and rubber goods makers and dealers are entirely in favor of the advance. At present there are three associations, namely, the Chambre Syndicale des Fabricants de Pneus, the Section de la Chambre Syndicale de l'Automobile and the Section Speciale de l'Alliance Syndicale due Commerce et de l'Industrie. These three groups will be amalgamated into one and in all probabilities Michelin will become the president. In connection with the tire industry it might be of interest to state that one of the biggest, if not the largest tire manufacturer, of France has declared that if the proposed new taxes of the government on gasoline become law, it will mean \$140,000 additional expense to this manufacturer per year. The government wants to raise the tax 1 cent per litre.



H. A. BONNELL'S MAXWELL, WINNER IN WILDWOOD PARADE

## SCOTTISH TRIALS PROVE GOOD TEST OF CARS



FIRESTONE PARTY TOURING IN CUBA



ONE OF THE FINE ROADS FOR MOTORING IN CUBA

**L**ONDON, June 24—The reliability trials recently held under the auspices of the Scottish Automobile Club consisted of a tour of more than 1,000 miles, up, down, and around, through the wildest highland scenery in most beautiful Scotland, and included speed tests on hills and brake tests. Out of sixty-eight entries sixty-five cars left Glasgow early Monday morning, and on the following Saturday fifty-eight cars returned, out of which sixteen had non-stop records; that is, they made no stops other than those included in the itinerary. Although favorable weather prevailed throughout the trip it proved a most exacting and exhaustive test, and not a few makers were shown the weaknesses of their products. The course for the first day lay from Glasgow to Aberdeen, via Dunblane, Cruff, Blairgowrie and Cairn-o-Mount, a distance of 181½ miles. All of the sixty-five cars which left Glasgow on Monday left Aberdeen on Tuesday and proceeded by way of Banchory, Tomintoul, Grantown and Foyers to Inverness, another run of little more than 180 miles. On the third day a circular run of 173 miles was made from Inverness through Beaulie, Garve, Gairloch, Strathpeffer and Dingwall, and save for two cars which had experienced trouble and withdrawn on the previous day, all cars duly reached their destination. The fourth day's run from Inverness to Pitlochry, via Fort Augustus, Spean Bridge, Kingussie, Trinafour, Kinloch Rannoch and Straun, was 174½ miles in length. The road was for the most part good, but as usual comprised several stiff ascents and descents. Another circular tour, with Pitlochry as its center, was made on the fifth day, which consisted of a 163-mile run through Kingussie, Grantown-on-Spey, Tomintoul, Braemar and Cairnwell Summit. The sixth and last day's trip from Pitlochry to Glasgow, 134½ miles, was comparatively easy, and at the close of the trials almost everyone

agreed that it was the most successful yet held. The weather was for the most part magnificent and the reception of the competitors by the people most cordial. The cars which succeeded in making non-stop records were as follows: 10-12-horsepower Humber, 14-16-horsepower Miesse, 15-horsepower Mass, 20-30-horsepower Cadillac, 15-horsepower Straker-Squire, 14-16 horse-power Argyll, 15-horsepower Star, 16-horsepower Singer, 20-horsepower Vauxhall, 16-horsepower Humber, 20-horsepower Lancia, 15-horsepower Rover, 12-horsepower Talbot, 18-horsepower de Dion, 30-horsepower Adler, 24-horsepower Albion.

### FIRESTONE TOURS IN CUBA

Akron, O., July 4—H. S. Firestone, president of the Firestone Tire and Rubber Co., and Frank Presbrey, of New York, recently enjoyed, together with their fami-

lies, quite an extensive motor tour in Cuba. Since his return Mr. Firestone declares that Cuba holds out many attractions to the motorist.

"Few people realize that the island is so large that if placed on the United States it would extend from New York almost to Chicago, with an average width as great as from Lake Erie to Pittsburg," he states. "A large portion of the island is, of course, still covered with dense forests and the facilities for motoring are exceedingly limited, but in the western portion of the island there are hundreds of miles of splendid roads, in many instances fringed with trees like the roads in France, which offer all the attractions for motoring. Quaint little villages are frequent and the scenery is so individual and tropical that every moment opens up a new vista of picturesque attractiveness. Sugar plantations, banana and orange groves and quaint little settlements all lend an endless variety to the scenery for motoring parties.

"We met with nothing but marked civility everywhere and there are so many motor cars now in Havana, Matanzas, Ceinfuegos and the chief cities of the island that they have ceased to be a novelty. There are many interesting trips out of Havana for a single day's run. A new road, now being completed, to Matanzas, makes a day's run to that interesting city and back to Havana, about 100 miles, which, in point of interest, good roads and attractive scenery can hardly be equaled anywhere on the globe. At the recent carnival, which ended the winter season in Havana, there was a wonderful display of motor cars, gay in decorations and many of them practically covered with flowers. As the charms of winter life in Cuba become better known many more American tourists will visit this wonderful island, and I believe they will be well repaid for their trip."



STREET SCENE IN HAVANA

# LOWELL MAKES PLANS FOR ITS ROAD RACES

**L**OWELL, MASS., July 3—The A. A. A. was well represented here last Tuesday when President Speare, Chairman Frank B. Hower, S. B. Stevens and Harry Knights, all of the contest board, and Fred Wagner came here for a conference with President J. O. Heinze, of the Lowell A. C., relative to the races next September. Messrs. Hower, Stevens and Wagner landed in Boston that morning and were met by President Speare and Harry Knights. Accompanied by three newspaper men the party went to Lowell and there met President Heinze. Chairman Hower had some contracts in his pocket, and after repairing to a little bungalow for a quiet talk the matter of races was gone over.

The conference lasted a couple of hours, with a lunch sandwiched in between. Then the officials were driven over the course to inspect it. The course met everyone's approval and suggestions were made relative to building up the turns with concrete. The question of races was discussed, and, while it was not settled definitely, the Motor Age representative gleaned enough to know about what the plans are.

It is proposed to have a series of sweepstakes on Labor day, which will be patterned after the motor parkway sweepstakes. There will be four events for cars of various piston displacement, and the distance will vary from something like 75 miles for the small cars to 150 or 200 miles for the large ones. On Wednesday it is proposed to have the big race of the week, with the large cars, a distance of something like 300 miles. There is also under consideration a plan to have speed trials of 1 mile or 2 miles on the boulevard. These will be held Thursday or Friday.

Matters were not definitely settled, for there is to be another conference later. The question of money may figure in the outcome. The A. A. A. wants the first \$2,000 of the profits, and after the club takes the next \$2,000, it wants an equal



WOMEN TOURISTS ON THE ROAD

share of whatever is over that. The Lowell club is not averse to paying something, but its officials want some guarantee that it gets its money's worth in the way of entries. President Heinze feels that if the races are a failure the blame will fall upon him and his associates, who will have to face the people in Lowell day after day, instead of the A. A. A. officials, who will be far off when the carnival closes. Therefore he is not proceeding hastily. He wants something more than mere assurances that there will be cars enough entered to make the events a success, for last year he had his troubles getting one race off, and then the club lost \$5,000.

President Taft is one of the notables expected to be present at the race. He will be summering at Beverly, not far away from Lowell, at that time, and an invitation has been prepared for him. It was especially engraved and bears the signatures of Governor Eben Draper, Lieutenant Governor Louis A. Frothingham, Speaker Joseph Walker of the house, and

President Treadway of the senate, the four chief legislative and executive officers of the Massachusetts government, as well as President Lewis R. Speare of the A. A. A. and President J. O. Heinze of the Lowell A. C. A special box will be built in the grandstand for President Taft and his family. The members of the senate and house have all been invited.

Chairman Hower picked out Mr. Heinze's bungalow on the banks of the Merrimac for his headquarters preceding the race, and it will also be made the press headquarters.

## BELGIUM AGAINST A RACE

Brussels, June 18—At a recent meeting of the sports committee of the Royal Automobile Club of Belgium a proposal to promote the Ardennes circuit race this coming September or October was voted down, as too few Belgian manufacturers expressed themselves as favoring the contest this year. However, it was decided to revive the de Liedekerke cup race for touring cars, and this race is to come off in August or September, very likely in the vicinity of Ostende. The sports committee also approved the program arranged for the annual week of Ostende, which will take place from July 14 to 17. The big road race for touring cars is scheduled for July 16. The contestants will have to cover 155 to 160 miles and maintain an average speed, yet they will also have to observe local speed regulations on the circuit. A speed contest over a course of 18.6 miles, from Ostende to Blankenbergh and return, will be run on July 17. On the following day the contestants will drive to Boulogne-sur-Mer for the annual meeting held in that city.

## RAMSEY PARTY PROGRESS

Chicago, July 7—Advices received here state that Mrs. Alice Ramsey and her three women friends who are driving from New York to San Francisco in a Maxwell are in the vicinity of Cheyenne, Wyo. They are driving leisurely and expect to reach 'Frisco August 1.



MRS. RAMSEY AND HER COMPANIONS ON TRANSCONTINENTAL TRIP



MRS. RAMSEY PROVES HERSELF A PRACTICAL MOTORIST

# TEN WIN TROPHIES IN PRINCE HENRY TOUR

MUNICH, GERMANY, June 30—The general classification of the Prince Henry tours shows Wilhelm Opel winning the Prince Henry trophy and the trophy offered by the Kaiserlicher Automobil Club, of Germany, Poege getting the bronze group of the Bavarian Automobile Club, Kittsteiner the trophy of the Austrian Automobile Club and Forchheimer the prize of the Hungarian Automobile Club. The other eight general winners receive also valuable trophies or prizes such as those offered by the cities of Vienna, Budapest, Berlin and the presidents of the leading motor car clubs interested in the tour.

The first prize in the guben or first speed trial contest was won by Wilhelm Opel, who gets the trophy offered by Princess Henry. Opel also gets the city of Munich trophy for being the winner of the second speed contest, the one of the Forstenrieder park. The second speed trial prize for the first trials goes to Count Kolowrat, who scored 5.96 points, and third prize goes to Willy Poege, who scored 5.95 points. In the second speed trial the second prize was won by Kittsteiner, who scored 11.25 points and the third prize went to Poege, who scored 11.18 points.

There were four special prizes given by clubs and which go to the owners who are not prize winners in the speed trials and who did not get a prize in the general classification. The first of these prizes was awarded to A. Horch, Horch car, the second prize to Eduard Fischer, Austrian Daimler, the third prize to Dr. Grosz, Benz and the fourth prize to O. E. Lindpaintner, Opel.

As the general classification of all the contestants is not yet known, no official classification of the concerns has been made. It is safe to say, however, that Adam Opel, of Russelsheim, is by far the big winner, as five of his sixteen cars are classed among the first twelve classed. The Adler manufacturers take second place.

## Statistics of the Tour

From among the 113 cars which had been entered 108 started from Berlin and ninety-two ended the tour in Munich, there being several non-contestants among these. Of the sixteen cars which did not finish, one actually made the entire tour and even was considered as third prize winner. This was the Opel of Mouson. However, this car was disqualified after the Forstenrieder speed trials because instead of the regular mechanic who had made the trip to Munich, Mouson had substituted a lad of 14 years just prior to the start in the speed contest.

The other fifteen cars which did not finish were two Oryx, two Suddutsche and one each of the following makes: Vivinius, Pipe, Rock, Itala, Fiat, Opel, Puch, Horch, Mercedes, de Dion-Bouton and C. Benz Sohne.

It has become known that before he departed from here Prince Henry had a conference with several of the highest officials of the Kaiserlicher Automobil Club with regard to the tour in 1910. Nothing definite was decided, but the prince has suggested that a route be studied which would make the starting place Munich and the finish Berlin, and that the course should be laid out to take the contestants through the Tyrol mountain region into Italy, thence to Hungary, Austria and thence to Germany. When it became known that the next route was already being discussed, it is reported that several of the contestants got together and decided to get others to join them in the signature of an appeal to the Kaiserlicher Automobil Club, asking that the tour pass again through Hungary. The story of the tour in detail is as follows:

## Breslau to Tetraured

The late arrivals of the first day's run—Berlin to Breslau—had hardly been in town more than 4 or 5 hours when the sound of the bugle was heard, meaning that the contestants were to get ready for the start for Tetraured. At 4 o'clock, just 30 minutes after Prince Henry had started, was the first of the 101 cars sent away for Tetraured. Of these 101 cars only one was a new non-contestant. This was one of the favorites at that, the Horch driven by A. Horch. The car had mechanical troubles on the way to Breslau and arrived after control closing time. Thus it was permitted to start only as a non-contestant.

Over half of the day's run was made in the rain and while driving through the mountain region of the Tatra the contestants were hardly able to average 20 miles an hour. All were careful and none met with accidents. Prince Henry arrived at 5:30 p. m. and about three-quarters of an hour later the first of the contesting cars arrived. The contestants stopped in the hotels of Tetra-Lomnicz, which was in reality the finish of the day's run. All of the 100 cars completed the day's run, the longest of the tour—245.6 miles—and probably 50 per cent of the cars had still a clean score.

Every contestant and official was on hand ready for the run to Budapest on the 12th, a distance of 124 miles. As usual, Prince Henry was the first to start, and at 7 o'clock,  $\frac{1}{2}$  hour after the kaiser's brother had left, the tourists started on what was the most pleasant journey of the whole tour. The weather was fine and the roads were in good condition. Notwithstanding the rain of the previous day, there was much dust and the rear leaders certainly got all they wanted and more. Ninety-nine cars reached Budapest on schedule time except the Mercedes of Alfred Hiele, which had started late from Tetra and which had troubles with its oil

pump. Still a large number had clean scores, among them the car of Willy Poege, who was a passenger in his Mercedes, the driver being A. Vischer. While passing through Gross-Staffelsdorf the tourists were greeted by the king of Bulgaria, who had come in his car to see the big caravan. On the confines of the city of Budapest the authorities and Archduke Joseph-August were assembled awaiting the arrival of Prince Henry, to escort him into town. The contestants drove up to the Tattersal, where the cars were housed under guard of the military. A large delegation of the officers of the garrison, having at their head the commander of the troops, assembled in the Tattersal to welcome the motorists. In the evening there were various festivities and a big banquet was tendered to Prince Henry.

Sunday, the 13th, was a day of rest. Archduke Joseph August gave a dinner in honor of Prince Henry at which about thirty guests were present. In the evening there was a banquet for all the contestants. Prince Henry was present.

For the first time since leaving Berlin the contestants got a good night's rest at Vienna. Most of them had retired by 1 o'clock in the morning, after the banquet. The start for Wien being set for 9, there was no bugle calling before close to 7 a. m., although some got up before that hour. Prince Heinrich was one of the earliest risers and at 8 o'clock he started. At 9 sharp Car No. 601, the Fiat with C. Fritsch at the wheel left and 55 minutes later ninety-six cars had departed.

## Excitement at Start

There were a few minutes of unlooked-for excitement during the getting-ready time. The Austrian Daimler of Count Hugo Boos-Waldeck caught afire. The gasoline which had dropped from the pan was ignited while the engine was being cranked. The count and others put out the fire quickly, but it caused the car to be penalized 1 point because of being late to start. The Rock car of Stephan von Rock failed to show up and the Horch of Freiherr von Low arrived after the control had closed.

Along the road to the capital of Austria there was evidence of much interest shown by the population, but the enthusiasm was nothing like that shown by the Hungarians. Prince Henry arrived at a few minutes past 3 and was greeted by a large crowd having at its head the city authorities. He remained until quite a number of the contestants had arrived and then went to his hotel, where the German ambassador came to greet him early in the evening. At 8 there was a reception at the headquarters of the Oesterreichischen Automobile Club, at which besides Prince Henry and Archduke Leopold Salvador, the flower of the Austrian nobility was present. One of the persons which seemed

to attract most attention was Frau Dr. Lilly Sternberg, the only woman contestant, who was driving a Protos car.

#### Sightseeing In Vienna

"See Vienna" or "Rest up if you wish," was on the program for Tuesday, the 15th. During the forenoon the motorists remained at their hotels. At 5 in the afternoon all the contestants and officials were guests at a tea party given by the Austrian club. Prince Henry was the guest of Emperor Francis Joseph of Austria during the forenoon and took dinner with the German ambassador later. In the evening the prince was the guest of the Archduke Leopold Salvador. Around midnight, after leaving the archduke, the prince made an impromptu appearance at the Austrian Automobile Club. There were but few members and contestants still there and thus it became something like a little family affair.

#### Vienna to Salzburg

"Das schone Wien," or as a man from the states would say, "Beautiful Vienna," was left behind by the several hundred tourists on the 16th, who started for the old city of Salzburg, 190.6 miles, beginning at 8 in the morning. As usual an hour was allowed to the contestants to get their cars ready. Great crowds were on hand hours before the starting time. All told ninety-five contestants and several non-contestants started for Salzburg between 8 and 9 o'clock. The prince, as on preceding days, started ½ hour ahead of the others. There was a great gathering of royalty and nobility to give him a send-off. The run of 190.6 miles was devoid of accidents and all reached the night's stopping place. Authorities and townsmen were there to greet the strangers and they did all they could to make the evening a pleasant one. Like in all the German and Austrian towns, the cafes or wine houses were the rendezvous at night of the contestants.

The last day of the tour, June 17, was not the longest or most difficult, but it was the most important, the one which was to decide the winner. The 126.6 miles separating the two goals, the starting and the finishing place, was covered in good time by the leaders. The first of the tourists started at 8 a. m. and between 10:45 and 11 o'clock a dozen cars had arrived at their destination, having thus made the trip in less than 3 hours. The end of the road tour was in the suburb of Giesing, from where the contestants drove together to the Forstenrieder park, where the final speed trial was held. The fine weather made it a pleasant day and the people of Munich were lined up along the roads and near the starting place by the thousands. Soldiers and the local police kept the course clear and officers galore were present to greet Prince Henry. The prince, like a true sportsman, drove over the park course, averaging his 50 miles an hour in his big Benz car.

Car No. 601, the Fiat of C. Fritsch and

## Germany Declares Against National Show

Berlin, June 18—The annual meeting of the Verein Deutscher Motorfahrzeug-Industrieller, or German Motor Car Manufacturers' Association, was held here a few days ago. It was decided that the present state of the industry does not warrant or make it necessary that a show be promoted in Germany this year. It was the unanimous opinion of the various speakers that the manufacturers should be as saving as possible and that besides being a big expense a show would cause a disturbance in the general conduct of the year's business. It also was decided that there is no need of a show being held in 1910. In order to have the decisions of the association more sweeping it was decided that any manufacturer, either of cars or parts, who takes part in any show which is not authorized by the association will be disbarred from exhibiting at the shows promoted or sanctioned by either the association or the Kaiserlicher Automobil Club. The assembly decided to promote, with the assistance of the Kaiserlicher Automobil Club, an international aeronautic and motor boat show, to be held in Berlin either during the latter part of 1910 or in the spring of 1911. There was a lively discussion concerning the present way of doing business with dealers, agents and others. It was decided that in order to protect the dealers or agents, the manufacturers will hereafter grant no special discounts or rebates to anyone except the dealer or the agent. The decision is taken with special aim at department stores and concerns which make their motor car business something like a side issue or which sell on installment plans.

driven by its owner, a non-contestant, was the first to be started in the speed contest. It was then 12:47 and only at 1 o'clock was the signal to start given car No. 602, also a Fiat. After that the starts were made without any great delays and it became an interesting event. Some of the drivers went at great speed almost the entire route, while others waited until the rather difficult curve on the course had been passed before opening the throttle. Moore-Brabazon, driving a Metallurgique, took the curve at full speed, managing his

car nicely. Fritz Erle, in his Benz, went around the curve at what seemed a record clip. However, it was left to Fritz Mounson, in an Opel, to make the record. The Opel car of Dr. Ludwig M. Opel also went by at a 100-kilometer tempo. Several cars took the turn badly and some came very near either spilling or running off the course. Thus was it that several which might have finished among the leaders were at the bottom of the list because they had to slow down quickly after getting out of the turn to hold the road.

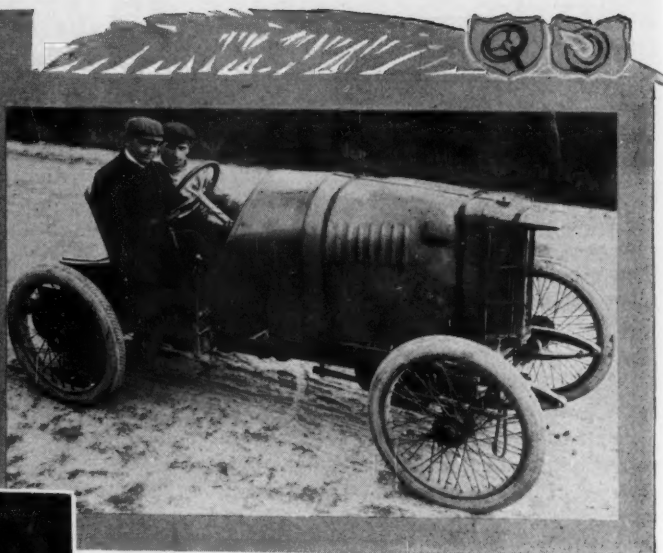
At 3 o'clock in the afternoon forty cars had been timed and by 5 o'clock fewer than twenty cars were still waiting for their turn to make the 3.4 miles at high speed.

#### SWISS HOLD BIG CLIMB

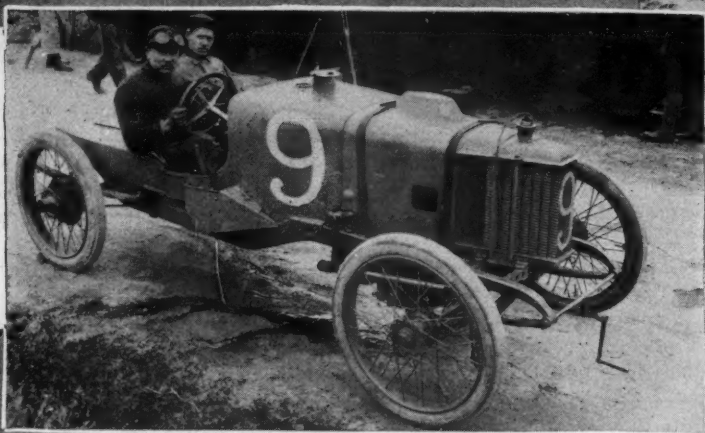
Berne, June 21—Although the Martini people had half a dozen of their well known cars among the twenty-five starters in the La Neuveville-Preles hill climb contest which was run yesterday by the Automobile Club of Switzerland, none of the Swiss cars succeeded in beating the little 9-horsepower Lion-Peugeot which captured the Monod trophy. It was the most important hill-climbing contest of the year for the Swiss motorists and there was a big attendance. The course was about 2½ miles long, the average gradient being 8.5 per cent, but there were many short stretches where 10, 12 and even 15 per cent incline was met. The classification was made according to a formula which took into consideration the car's weight, the fuel consumption, the horsepower and the time. The winning Lion was a two-cylinder, 2.95 by 5.9, driven by Rosario, time 12:45 3-5. A four-cylinder 12-horsepower Fiat, 3.1 by 3.9, was second, time 6:59 2-5. A four-cylinder 12-horsepower Martini, 3.1 by 4.3, was third, time 7:03 2-5. A four-cylinder 25-horsepower Martini, 4.1 by 5.5, was fourth, time 7:14 1-5. A four-cylinder 14-horsepower Diatto-Clement, 3.3 by 4.7, was fifth, time 8:17 4-5. M. Beck, driving a four-cylinder 60-horsepower Martini, 5.3 by 5.9, made the fastest time in 4:11 2-5, and secured sixth place. A four-cylinder 10-horsepower Martini, 2.5 by 3.5, was seventh. Then followed a two-cylinder Doriot, a two-cylinder Renault, a six-cylinder Delaunay-Belleville, a four-cylinder Unic and a four-cylinder Zedel.

#### FINAL STANDING OF WINNERS IN PRINCE HENRY TOUR

Entrant	Car	Bore and Stroke	Prescribed time for trials	Time in first trials	Time in second trials	Final score
Wilhelm Opel	Opel	2.75 by 4.9	5:59 7	3:39 4	3:49 8	20.76
Willy Poege	Mercedes	3.5 by 5.5	4:56 7	3:06	3:10 6	20.13
Chr. Kittsteiner	Opel	2.75 by 4.9	5:59 7	3:51 6	3:50 4	19.78
Forchheimer	Benz	3.1 by 4.7	5:32 1	3:41 2	3:37	18.61
Ernst Sachs	Opel	2.75 by 4.9	5:59 7	3:54 8	3:57 4	18.56
Dr. L. M. Opel	Opel	4.3 by 5.9	4:15 6	2:47 6	2:52	17.97
Count Kolowrat	Laurin-Klement	3.3 by 5.9	5:03 5	3:10 2	3:30 4	17.64
F. Wandesleben	Adler	3.3 by 4.9	5:16	3:28 4	3:34 6	17.56
Adam Paul	Adler	3.3 by 4.9	5:16	3:31 4	4:47	17.08
D. Jesserum	Opel	4.3 by 5.9	4:15 6	2:52 4	2:56 2	16.86
Franz Helne	Adler	4.3 by 4.7	4:28 6	3:04 8	3:05 4	16.53
Hugo Remy	Adler	3.3 by 4.9	5:16	3:35 4	3:40	16.30



GIUPPONE IN WINNING LION-PEUGEOT



RACERS LINE UP FOR START OF THE VOITURETTE RACE AT BOULOGNE

THOMAS IN LE GUI, WHO FINISHED THIRD IN THE BATTLE OF LITTLE CARS

PARIS, June 20—In the voiturette race, which was contested at Boulogne today, the three Lion-Peugeot cars ran away from the other seventeen contestants. At the end of the race, with only ten cars still running, the three Lions were first, second and and fourth. In between was Thomas, who succeeded in getting third place for his Le Gui car.

Giuppone drove the winning Peugeot, a mono-cylinder having 3.9 inches bore and 9.8 inches stroke. He covered the course of 282.6 miles in 5 hours 56 minutes 29% seconds, averaging 47.5 miles an hour. His team mates, Goux and Boillot, drove two-cylinder cars, having 3.1 inches bore and 7.55 inches stroke. Goux, who was second, covered the course in 6 hours 2 minutes 5% seconds, and Boillot, who took fourth place, made the twelve laps in 6 hours 20 minutes 12 seconds. The Le Gui, finishing third in 6 hours 14 minutes 13% seconds, had a one-cylinder motor 4.1 by 8.38. The three Spanish cars, the Hispano-Suiza, finished fifth, sixth and seventh, respectively, in 6:27:25, 6:33:55 and 6:34:51. All three had four-cylinder motors, 2.5 by 5.5. Two British cars, the Calthorpe of Porter and of Burgess, took eighth and ninth places in 7:05:08 and 7:09:24. They had four-cylinder engines 2.6 by 4.3. The tenth car to finish, the Demeester, driven by Vallee, was a

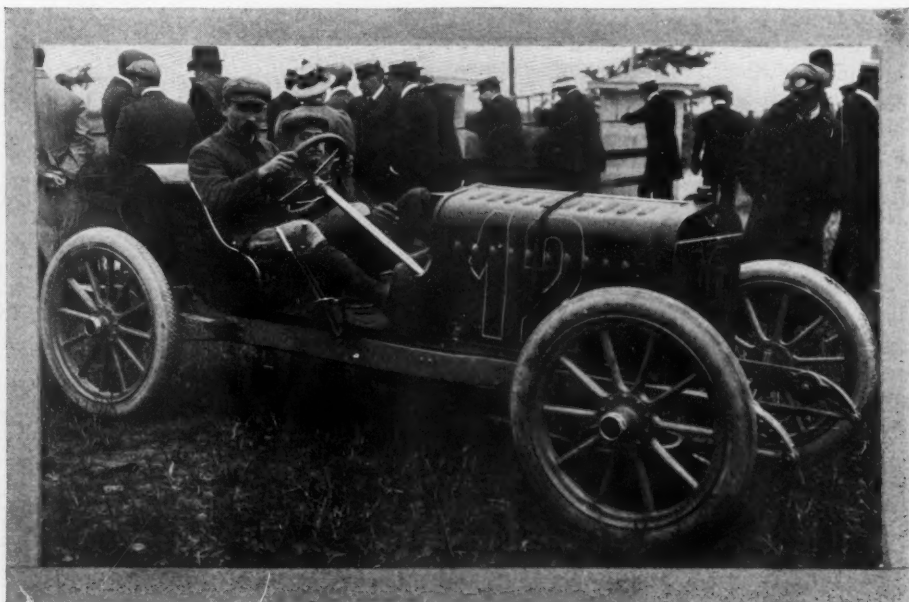
four-cylinder engine, 2.67 by 4.64. It covered the 282.6 miles in 7:27:40.

The three Alcyon cars and two of the Renault-Schneider cars did not start, not having been completed in time. The third Renault-Schneider, which was not weighed Saturday at the regulation hour, was accepted this morning by the special committee, but the car was not completely

ready and dropped out after having gone a few laps. During the first round three cars quit. The Crespelle, driven by Crespelle, skidded while going around a turn and put its steering gear out. The Werner was out owing to the ball bearings of a front wheel breaking. The Crespelle car of Leduc caught fire and by the time the blaze was put out the car was half burned up. Goux led at the end of the lap by nearly 1 minute.

The first car to run into a fence during the race was the F. I. F., driven by Lenoir. There were many people near the fence, but they managed to get away in time. Lenoir was not hurt but the car was a big sufferer. Goux was leading, with Giuppone a close second at the end of the second lap.

Differential troubles compelled the half-finished Renault-Schneider to drop out dur-

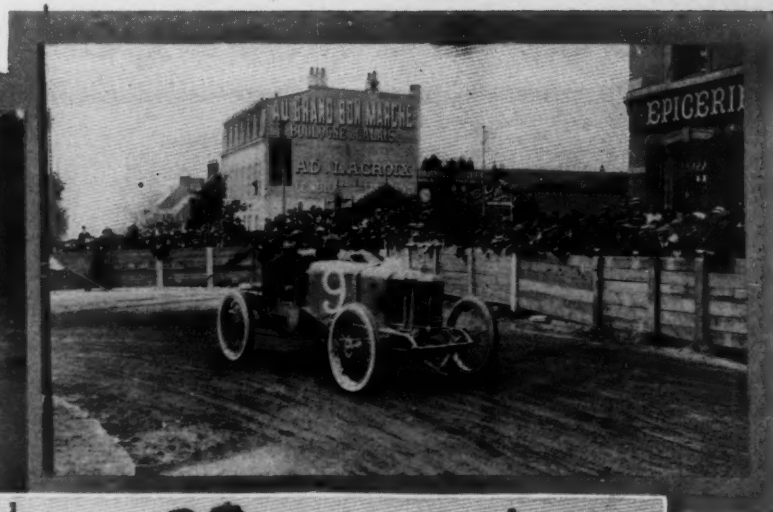


PILLIVERDE IN THE HISPANO CAR, FIFTH

## Battle of Little Cars



GOUX IN LION-PEUGEOT, SECOND

THOMAS MAKING TURN IN LE GUI, SHOWING HOW COURSE WAS PROTECTED  
VALLEE IN DEMEESTER, TENTH AND LAST OF THE FINISHERS

## On Boulogne Course

ing the fifth lap. Goux was then leading by more than 2 minutes, with Giuppone second and Pilliverde third. During the sixth circuit, at the end of which Giuppone was first, preceding Goux by 31 seconds, the third Crespelle car, driven by Farcy, was put out of the race owing to an accident near a turn, the little car turning turtle. Neither the driver nor mechanic was hurt.

Giuppone, the winner, drove his Lion-Peugeot at an average speed of 47.5 miles an hour by covering the 282.6 miles in 5 hours 56 minutes 29 $\frac{1}{2}$  seconds. Boillot, the third Peugeot man, who finished fourth, made the fastest lap, covering the 23.5 miles during the ninth lap in 26 minutes 43 seconds, averaging 53.4 miles an hour.

### Division of the Spoils

The prizes of which there were about a dozen, did not all go to the Peugeot people.

Of course the voiturette trophy was won by them. They also received the Cottereau challenge trophy, which was to be awarded to the concern whose cars as a team showed the greatest regularity. The Delage challenge trophy, also for regularity of running but per car instead of per team, was won by the Hispano-Suiza, which finished fifth, sixth and seventh.

The cup given by the Galeries des Deux Passages, to the car making the fastest lap went to Boillot of the Peugeot team, while the trophy of the city of Boulogne was given to Giuppone. The Hispano-Suiza also took the prize offered to the first foreign car to finish and the prize to the manufacturers of the first foreign car to finish. The trophy offered to the car which showed the least variance in time for each of the twelve laps was won by the Calthorpe.

The times per lap made by the Calthorpe cars were as follows: For Porter, 35:05, 34:16, 41:30, 34:14, 34:05, 34:17, 34:39, 41:59, 37:27, 36:13, 34:27 and 34:16. The times made per lap by Burgess were 35:30, 35:00, 36:15, 36:12, 36:41, 36:33, 37:19, 38:35, 34:34, 34:20, 34:13 and 34:12. The time per lap of the winner, Giuppone, were 31:24, 28:37, 32:24, 27:34, 27:29, 27:05, 27:40, 29:05, 31:10, 33:32, 29:42 and 30:48 $\frac{1}{2}$ . The record per lap of Goux, the second, was 29:23, 29:02, 29:52, 29:03, 30:08, 29:20, 29:40, 30:57, 34:25, 30:06, 31:32 and 29:24 $\frac{1}{2}$ . Summary of the race.

Pos.	Driver	Car	Time
1—	Giuppone	Peugeot	5:56:29 $\frac{1}{2}$
2—	Goux	Peugeot	6:02:05 $\frac{1}{2}$
3—	Thomas	Le Gui	6:14:13 $\frac{1}{2}$
4—	Boillot	Peugeot	6:20:12
5—	Pilliverde	Hispano	6:27:25
6—	Zuccarelli	Hispano	6:33:55
7—	Derny	Hispano	6:34:51
8—	Porter	Calthorpe	7:05:08
9—	Burgess	Calthorpe	7:09:24
10—	Vallee	Demeester	7:27:40

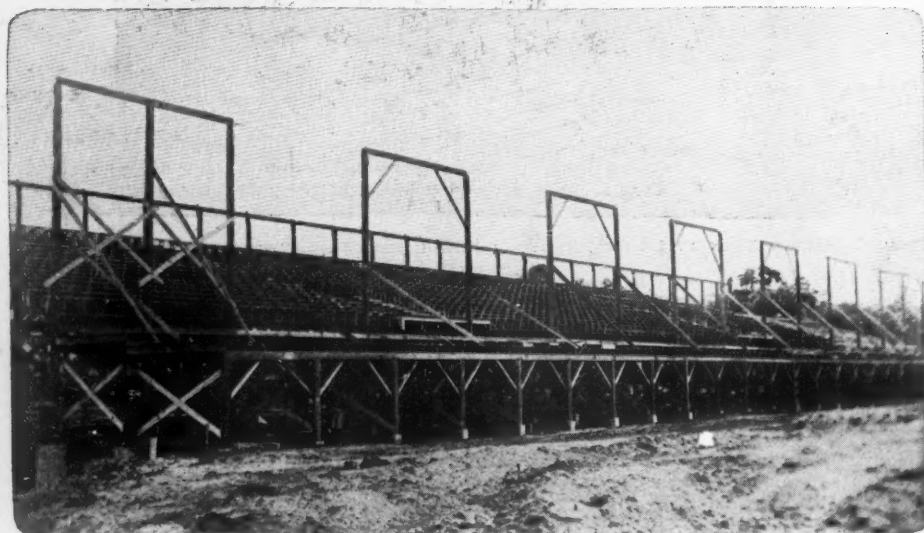


PORTER IN THE ENGLISH CALTHORPE, EIGHTH

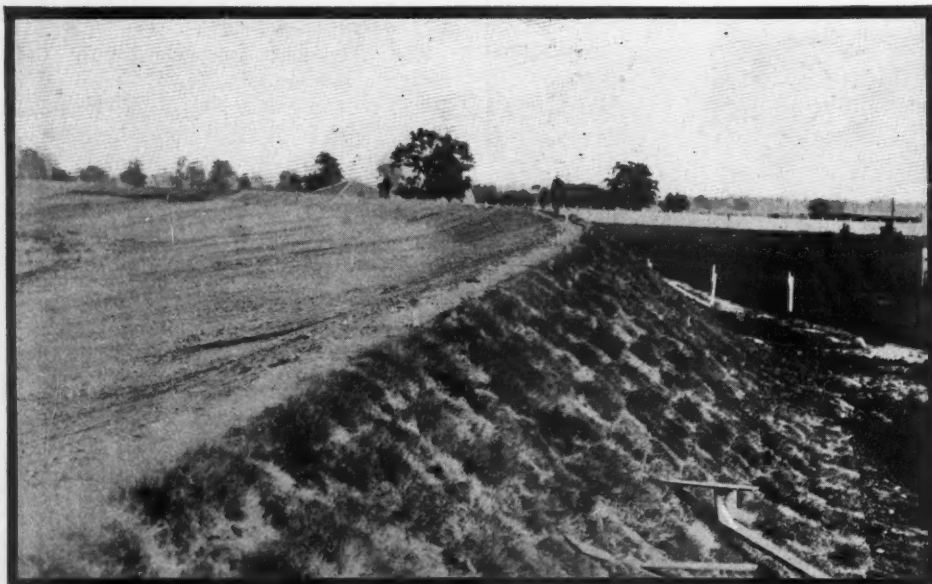
# Two Speedways For Motoring Purpose



GENERAL PLAN OF INDIANAPOLIS SPEEDWAY



GRAND STAND AT INDIANAPOLIS AS IT LOOKS NOW



ONE OF THE BANKED TURNS AT INDIANAPOLIS

## Indianapolis' Mammoth Track Ready For a Meet Next Month

ALTHOUGH Great Britain was the first to build a motor speedway or track—the Brooklands—America is proving an apt pupil and in a very short time will be better equipped in this line than its teacher. The Long Island motor parkway was dedicated and used last fall, while next month Indianapolis will have its great track completed. A third echo comes from the south—from Atlanta, Ga., where Asa Candler, Jr., and E. M. Durant, business men of that city, are constructing a speedway, which is classified as a \$250,000 venture.

The opening of the Indianapolis speedway to motoring has been set for Thursday, Friday and Saturday, August 19, 20 and 21, when a meet will be held. The first day will start with preliminaries of sprint events and record trials, winding up with a long distance race, 250 miles in length, which will be open to cars with a piston displacement of from 231 to 300 cubic inches. On Friday the semi-finals of the free-for-alls will be run and the big race will be a 300-mile stock chassis event for the Prest-O-Lite trophy, which is open to cars with piston displacement of from 301 to 450 cubic inches. Finals of the free-for-alls will be run Saturday and the meet will wind up with a long distance race for the Wheeler & Schebler trophy, worth \$5,000, open to cars with piston displacement from 451 to 600 cubic inches.

Work on the speedway at Atlanta has started and the opening of the track has been set for November 9, when a 4-day meet will be held. It is stated, though, that the speedway will be completed by October 15. The meet will be held at the time of the national show in Atlanta, the tentative program calling for a stock car race at 300 miles for cars of from 451 to 600 cubic inches piston displacement; a 301-450 light car race at 250 miles; a 350-mile free-for-all for the Atlanta trophy; a sweepstakes with five classes. In addition there will be short races and speed trials, the meet being a 4-day affair.

A. Candler and E. M. Durant conceived the plan of building this track, and quietly purchased farm after farm until over 290 acres of valuable farming country under cultivation had been secured. The growing crops were purchased also, together with eleven farmhouses, and country roads were closed. The farmers moved out at once and only then did Gate City people awake to the enterprise on foot. On the ground purchased there are now at work gangs of men comprising all told nearly 1,000 laborers and 100

# Now Being Built in the United States

## Patriotic Southerners Constructing Racing Plant at Atlanta, Ga.

teams. Great steam shovels, 100 big cars running on tracks, grubbers, carpenters and masons are at work. The track or speedway is to be 2 miles in circumference, 100 feet in width on the home stretch and 60 feet on the banks and back stretch. On the banks the rise will be 10 feet to the outer edge or six degrees and these banks will be shaped scientifically. The surfacing on a red earth basis will be of Augusta chert and well mixed with a special oil. The removal of 300,000 cubic yards of dirt will be required to construct the speedway and level down all the hills to bring into view of the stand every inch of the track, which at some points will be 15 feet above the surrounding land at the pole. At such points a bank will be built to the land below for safety and the backs of the banks will be slanting also. No fences inside or outside the track will also lend an air of safety. Eleven farm houses will be removed from the center to a low point in the land where will be erected the speedway village for the accommodation of the racing teams and managers. Twelve or more fireproof garages and a machine shop with power will be erected there. Each garage will accommodate four cars, two entering from the rear and two from the front. The living rooms of the drivers will be above the garages. In addition the manager will be provided with a home and office in the track center. At one corner of the speedway grounds will be found a club house and the next corner has a home for the track superintendent or ground keeper. There will be a complete waterworks also in operation on the ground and a lighting plant. The tract of land is 2,200 by 6,100 feet and is but 7 miles from the city center, out both Stewart avenue and College avenue, each 80 feet in width. Two street car lines will enter the grounds, and two railroads are close by, the Atlanta and West Point and the Central of Georgia, with side tracks extending for several miles on each road. Grandstands to seat over 30,000 people are to be erected and at a height giving a general view of the entire course. Under these stands photographers will find quarters. A restaurant also will be found under the grandstand which will have a double row of boxes, 6 feet lower than the lowest seat. The press stand will be a model. Parking spaces for thousands of cars will be found in the center, which will be reached over a good road extending from the street under the upper bank and across the center.



WORKMEN LAYING OUT ATLANTA SPEEDWAY



CANDLER AND DURANT, WHO ARE BUILDING ATLANTA TRACK



ACTIVITY AT ATLANTA—CUTTING OUT A TURN



# The Readers' Clearing House



## GOULD DIFFERENTIAL

**B**OULDER, COLO.—Editor Motor Age—The deficiencies of the present type of the differential gear are not plainly apparent even to the manufacturers for the reason that there is a great difference in what the gear is required to do to get the best results, and what the present type of gear is capable of doing under certain conditions. In considering what led up to the adoption of the present differential gear for cars we find that the first demand for a device of this kind was not for a vehicle that was propelled by its own power, and depended on its traction to move itself over the ground, but was for a form of vehicle or machine which was propelled by a power outside of itself, and which was made for the purpose of transferring this power through the tractive action of the wheel to the axle for the purpose of performing certain work on the vehicle itself, as in a mowing machine. In doing this it was found necessary to make some provision for the fact that on curves one wheel must travel faster than the other owing to the fact that it must travel further in following the circumference of a circle whose radius is increased for the outside wheel by the distance of the width of the vehicle.

In these types of machines this was accomplished by the use of a stiff axle which was revolved by ratchets in the wheels when the vehicle was going in a forward direction and whose action in rounding curves would drive the axle with the outside wheel only, allowing the ratchet to escape in the inside wheel by reason of the fact that at the time the axle was being driven faster than the inside wheel.

An important cause of the low tractive power of self-propelled vehicles is the peculiar and ineffective working of the differential or equalizing gear used on them. This gear has the defect of allowing all the power to go to either one wheel or the other, and instead of this being an advantage—as it would be should all the power go to the wheel with the most resistance—it is a great disadvantage as the power will always go to the wheel with the least resistance; and if this resistance is not enough to move the vehicle, one wheel will simply spin or dig and the forward impulse on the car is only twice the power it takes to dig. It is a very ordinary sight where traction engines are used to see them carry planks to feed to one wheel in case it should get off the hard surface and begin to dig. In many cases where this occurs did the wheel on the hard surface retain always its maximum of traction it would be sufficient to move the vehicle. But what actually takes place is this: Suppose the engine to have 20-horse-

**EDITOR'S NOTE**—In this department Motor Age answers free of charge questions regarding motor problems, and invites the discussion of pertinent subjects. Correspondence is solicited from subscribers and others. All communications must be properly signed, and should the writer not wish his name to appear, he may use any nom de plume desired.

power, and that on hard roadway the tractive power will reach this amount, 10-horsepower being used by each wheel; now, if one wheel is taken clear off the ground the other wheel has then no power; then it will be clear that if one wheel strikes a soft spot which reduces its traction to 3-horsepower that the traction of the wheel on the hard surface is instantly reduced to the same amount, making 6-horsepower traction as against 20-horsepower in the engine. Here is 14-horsepower lost or not available, whereas if the wheel on the hard surface had retained its original 10-horsepower there would be an available force of 13-horsepower, or a loss of only 7-horsepower. The fact is that the device which is now used to allow for the simple variations of distance traveled by the wheels—and which can in no case amount to more than a full revolution of one wheel—is capable of all the actions performed by a planetary transmission gear, and under certain conditions of running tends to do some of these stunts to the great disadvantage of the tractive power of the car.

To prove this jack one wheel off the ground and apply the power, the free wheel will run at twice the speed of the differential case, the power having no tendency to move the car through the other wheel, which is now simply acting as a brake to cause the free wheel to speed up and allowing all of the power to escape. Now, if resistance is applied to the free wheel, power to start the car will be applied to the other wheel to just the extent of this resistance plus the friction of the gear. With an ideal device the car would run with half as much power as when both

wheels were on the ground, or at least when resistance was applied it would be multiplied through friction of the gear to the other wheel.

This tendency to double the speed of either free wheel is the least noticeable when the car is running at its highest speed, and yet here it is at its worst for the reason that first one wheel and then the other is constantly leaving the ground for a short distance, and when one wheel is off the ground its speed is instantly accelerated by the power of the car, this occasions a loss of speed to the car as no power can be applied to it at the time.

Here also is a great difference in the speed of the wheels, which must be equalized by slippage when both have adhesion. And as this is constantly happening it must be very hard on tires, besides causing considerable loss of speed.

In anything like rough running the action would be much like suddenly changing the speed of the engine, or frequently shutting off the power and then applying it. As far as the wear on the tires is concerned, the case is worse when the wheel is not thrown clear of the ground by its resiliency over bumps, but holds to the ground enough to rub when it is propelled faster than the other wheel.

To further prove that the differential is identical with the planetary transmission, when both wheels are clear off the ground one wheel will reverse the other when resistance is applied to the differential. This action tends to erratic running in braking where the brake is on the differential as the wheel having the most resistance tends to run the other one backwards, which puts side strain on the front tires and causes skidding. Further, if one wheel of a car were fastened solid to the ground and the other wheel had enough adhesion to move the car if the power were applied the car would spin round in a circle using the stationary wheel as a pivot and causing the front wheels to skid in a circle. So in order to allow for the slight variations that must occur on curves the differential as it is, and with all its faults, was adopted, notwithstanding it is expensive to build, and on account of having delicate gear teeth on which its driving strength depends it is insecure under any circumstances.

Knowing all of this and after having investigated several ratchet and clutch devices for this purpose, all of which were more or less complicated and unsatisfactory, the writer after dismissing these as wrong in principle, took up the study of cranks and eccentrics for this purpose, and after considerable study and experimenting produced a model working with two cranks fastened to each shaft and which

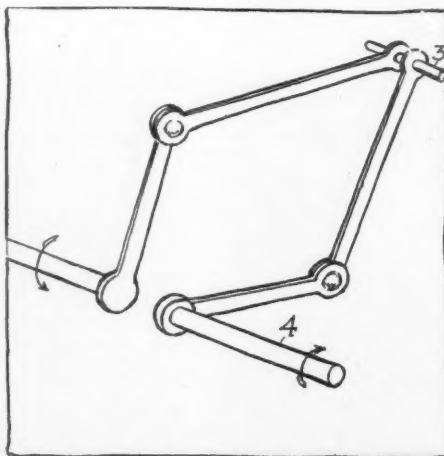


FIG. 1—GOULD DIFFERENTIAL

controlled each other by means of bars or links, which were fastened together in pairs, by a pin or stud, at their outer end, forming a hinge joint, while the inner end of each pair of bars engaged a crankpin on alternate shafts.

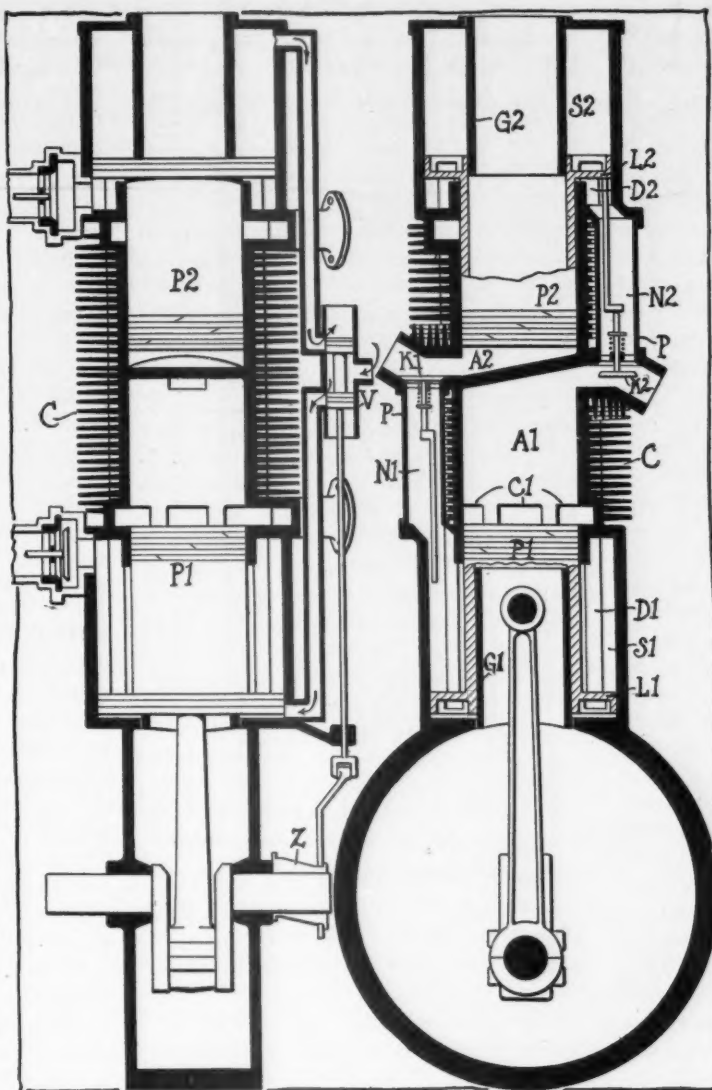
This is shown in Fig. 1 with two cranks and one pair of bars only, and serves to illustrate the principle. It is evident from this that if the power were applied to the studs in the outer end of the bars, which stud is held in its position by slots in the crankcase, that both shafts will be rotated in the same direction and at the same speed so long as the resistance to them is the same, by reason of the one bar pulling on one crank, and the other bar pushing on the opposite crank.

The slot in which the stud rests is twice as long as the crank, and this allows the shafts to change their position in relation to each other, by reason of another force tending to turn them in opposite directions as in differentiating. The stud traveling in slot until the end is reached when the two cranks would be together, and the mechanism would then have no action as the cranks in this position do not offset each

other. Here is where the other set of cranks come in, these being set at right angles to the others are in the position of these, when these are together. It will be noted that the position in cut is the best position for full action of the cranks, and that at a position half way between both sets of cranks are in action at the same time. In brief here we have a differential without gears, clutches or ratchets, but find that its action is identical with that of a toothed gear differential, and that it has all of the defects spoken of as those of toothed differential. In fact, their actions are alike even to the fact that when one shaft is held and the power is applied to the casing the other shaft will revolve at twice the speed of the casing. This is because the standing crank imparts one revolution to the moving crank through the bars for every revolution of the case. Thus we have a two-speed gear with cranks, but it is no good as a differential. However, we have a start and do not intend to give up now.

One of the fundamental principles on which all mechanical devices depend is the reducing or minimizing of friction where it is not needed.

In order to increase the friction where



FIGS. 2 AND 3—FRANKLIN'S DOUBLE-ACTING ENGINE

it was most needed in this device we have only to substitute eccentrics for the cranks, and without making any other change we have a device which has not one of the above mentioned faults. In the bearings of the cranks friction is minimized and as a result motion can be transferred from one crank to the other, which not only is not necessary, but is the one drawback to be overcome.

With eccentrics and links fitted to the outside of them, when the attempt is made to transfer the motion from one axle to the other 90 to 100 per cent of it is lost in friction on account of the large bearing surface and short throw of the eccentrics. While at the same time when the power is applied to the gearcase to drive and an outside power tends to change the relative position of the axles by being applied to both of them at the same instant—as do the wheels in differentiating—they release for this purpose without friction, this motion not having to be transferred through one eccentric to the other. The eccentrics may be turned in pairs in a lathe so that they stand at right angles, or they may be made by taking two disks of the proper size and boring them off center for the shaft and cutting the keyseats so that

the eccentrics will stand at right angles when fitted to the shaft. They will overlap enough so that a good-sized pin can be put through both eccentrics, thus making almost as solid construction as the other and doing away with lathe work almost entirely.—E. J. Gould.

Mr. Gould's article is interesting in view of the article on differentials, written by Mr. Duryea, that appeared in the previous issue of Motor Age.

#### DOUBLE-ACTING ENGINE

Portland, Ore.—Editor Motor Age—At different times in Motor Age I have noted the designs of some new types of gasoline engines, particularly those of the double-acting kind. For 6 years I have been experimenting on this class of engine and after looking over the designs of all the double-acting engines I have been able to get, I fail to see where there is any marked advantage over the two or four-cycle. The usual claim for the superiority of the double-acting engine is lightness in weight combined with simplicity, but if a study of the engines now in use is made, with its valves, cams, gears and piston rods with their complicated methods of cooling said piston rods, it will easily be seen that the only

thing they really dispense with is a four-throw crank, using a one-throw crank in its stead.

In my ideal engine my object is simplicity and I chose the two-cycle, making use of the extension—or double-diameter piston—to supply the fresh gas; and doing away with the crankcase supply. It can be seen that I fill my cylinders C from the heads. The advantage of this is apparent to anyone familiar with the two-cycle. There are no piston rods passing through the cylinder heads to get hot and stick. This engine can be cooled as easily and as quickly as any other two-cycle.

Following is a brief description: This engine is self-starting and reversible. The starting arrangement does not interfere at any time with the cycle of operation. Fig. 2 is a view in line with the crankshaft, showing the carbureter connections and starting device. Fig. 3 is a view at right angles to Fig. 2, and shows the valves for admitting the fresh charges into the cylinders. The air-cooled power cylinder C is drawn in solid black and has both ends open with the head in the center and with valve pockets P on each side making a cylinder in the form of an H. There are two pistons, P1 and P2, with extensions on

the open ends, working one up and down on each side of the cylinder head; that is, in a vertical engine one fires up and the other down. The pistons P1 and P2 are connected by the tie rods D1 and D2, which pass through the bushings in the heads of L1 and L2 and are fastened on the extensions of the power pistons, making them move as one. The extensions on the power pistons work in the larger bore of the cylinders, thereby making pump cylinders for the spaces S1 and S2 for the fresh charge. Pump cylinder L1 communicates with the power cylinder A2 by means of the transfer pipe N1 and valve K1. Pump cylinder L2 communicates with power cylinder A1 by means of the transfer pipe N2 and valve K2. The piston P1 pumps for cylinder A2 and P2 for A1. The valves K1 and K2 are raised by the extension on the pistons, the length of the stem controlling the timing. The exhaust ports are shown at C1.

The operation is as follows: On the down stroke of the crank, as shown in the drawing, a fresh charge has been drawn in pump L1 and through the check valves, shown in Fig. 2, and at the same time the exhaust ports C1 open, pump cylinder L2 is compressing a fresh charge in power cylinder A1. It is to be understood that the valve K2 is not raised until the exhaust ports have been opened a predetermined length of time and at the same time power piston P2 is compressing a charge in power cylinder A2 and is on the point of being fired. When power cylinder A2 fires its charge and ascends on the upstroke, pump cylinder L1 draws in its charge and presses it and fills the cylinder A2 the same as it does A1. It can easily be seen that one cylinder supplies the other and that two explosions occur in one revolution.

The starting is accomplished without interfering with the operation or adding complicated mechanism, by fitting the sleeves G1 and G2, which I get air-tight. These spaces are used to receive compressed air which works on the extensions of the power pistons, causing them to move and start the engine. This engine will not stop on a dead center because of the balancing of the charges in the power cylin-

ders A1 and A2. The timing of the air is effected by means of a double-throw eccentric Z which gives forward or reverse by sliding on its shaft, and a small piston valve V, all of which can be plainly seen in Fig. 2. I expect to get more power from this engine than I would from an ordinary two-cycle of the same piston displacement because of the large exhaust ports C1 which extend around the bottom of the cylinder and the positive method I have of putting a charge of any volume into the head of the cylinder where there will be no chance of its mixing with the burnt gases.

The self-starting arrangement can, by using sufficient air pressure, be made to take the full load the same as a steam engine could and if used for motor car work for short periods could be used in pulling up steep grades and out of ruts. All that is necessary is a storage tank of sufficient capacity and strength to stand pressure needed. A small tank could be used as the pressure really governs the size. I am now building a two-cylinder engine with cylinders set at 90 degrees to each other and working on one crank. This combination will give four explosions per revolution, equal to an eight-cylinder four-cycle engine.—Ernest Franklin.

#### TOURING INFORMATION

Knoxville, Tenn.—Editor Motor Age—I am contemplating a trip from the other side of the Cumberland mountains—either Winchester or Lexington—going through Cincinnati, Indianapolis, South Bend, Chicago to Milwaukee, and return by Detroit through Canada to Buffalo, and back through the Shenandoah valley, but I am ignorant about the licenses in the different states through which I will have to pass, I will appreciate any information Motor Age can give me as to permits, and a list of the stopping places that are authorized by the American Motor League, and any other information that it knows of as to the best maps, etc.—Frank S. Mead.

In passing through the various states to make the tour as outlined, the following holds good relative to the license situation: As your own state, Tennessee, re-

quires non-residents to take out a license when touring through the state, you will be compelled to secure a license in Ohio, Michigan, and Pennsylvania, but in this latter state you are required, when taking out a license, to file a power of attorney to accept original process. In Indiana and Illinois the home state registration tag is sufficient. In Maryland and Virginia a motorist is not exempt; in West Virginia there is no state provision; a license is not required to simply pass through the state of North Carolina, but otherwise you are not exempt. In Kentucky you are exempt so far as the state is concerned. The American Motor League is no longer in existence. For maps, etc., the Automobile Official Blue Book covers the map and touring situation very thoroughly and can be secured from the Class Journal Co., 1200 Michigan avenue, Chicago, the price of which is \$2.50 per copy.

#### REMOVING CARBON

Lafayette, Ind.—Editor Motor Age—If Motor Age would publish a formulae for a chemical solution for removing carbon from gasoline engines it would be much appreciated by its readers, also one for polishing brass lamps. Will an air-cooled engine, of the same bore and stroke as a water-cooled engine, develop same, or more or less horsepower? Which consumes the more gasoline for a given horsepower hour?—Subscriber.

There are a number of decarbonizing solutions on the market for which good results are claimed, while many boast of the efficiency of kerosene as a carbon remover. A positive method of removing that solid crust of carbon which in time accumulates on the piston and cylinder heads of a motor is to remove the cylinders and scrape. A cure, however, for the accumulation of carbon deposits is claimed by an Englishman, who states that some time ago, after thoroughly cleaning the tops of his pistons and the explosion chambers of the cylinders, he coated them with a paste composed of ordinary graphite and gasoline; and after running the machine for 9,000 miles, he again took down the engine and found no carbon deposit. Motor

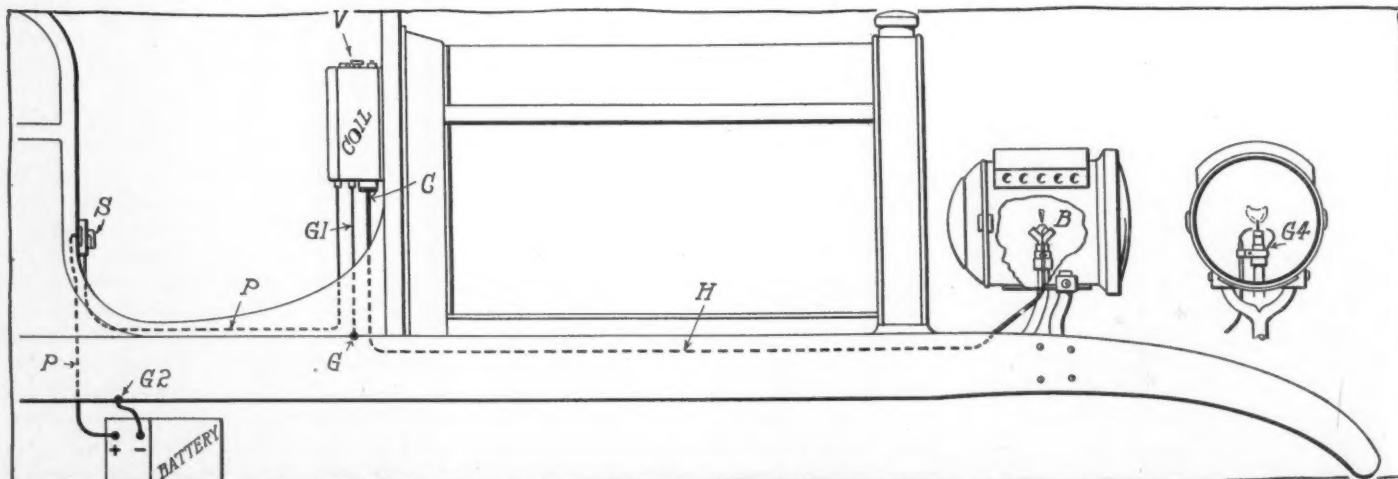


FIG. 4—WIRING DIAGRAM FOR ELECTRIC GASLIGHT IGNITER

Age would like to hear from anyone experimenting with this remedy.

Decarbonizing solutions and directions as to their application may be obtained from almost any motor car supply house. The use of kerosene is most effective just after a run, while the engine is warm, the method of application being to pour about a tablespoonful of kerosene into each cylinder through the priming-cock or spark-plug hole; close the cock or replace the plug, and turn the engine over a number of times by hand, to distribute the kerosene, then allow the engine to stand over night. In the morning when the motor is started up the carbon which has been loosened will be blown out through the exhaust.

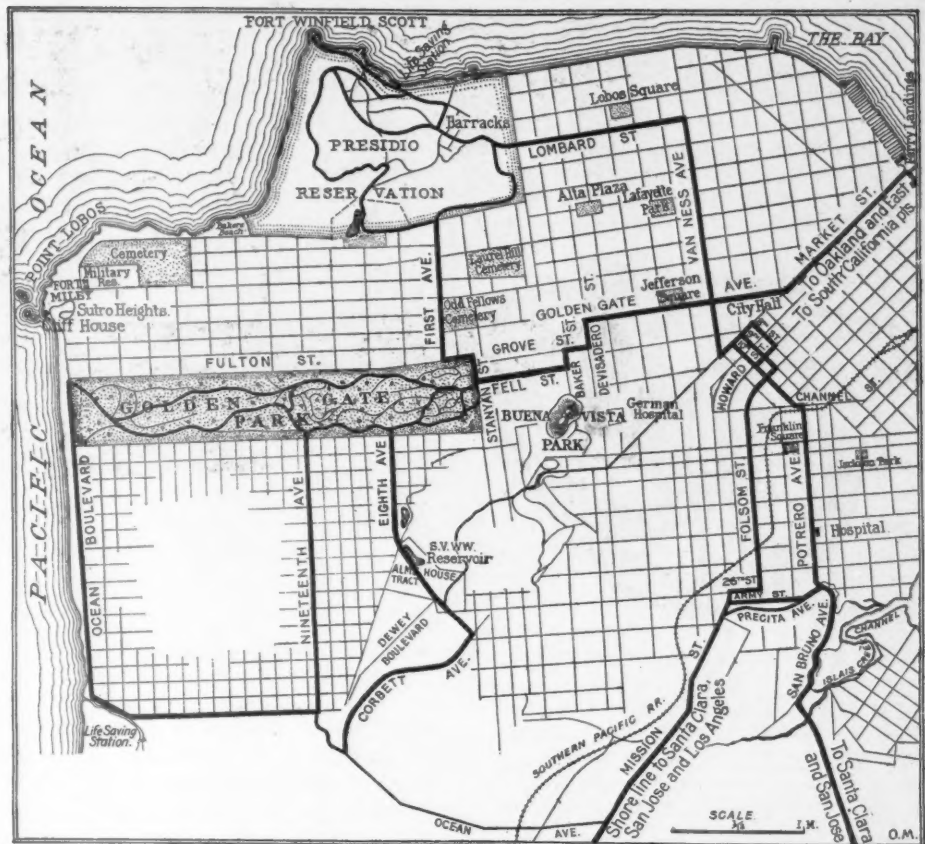
An economical method of cleaning brass is to rub it with a mixture of vinegar and salt, or oxalic acid, then wash with water and polish with tripoli and sweet oil, or any good brass polish. Polishing powder may be made as follows, the quantities being by weight: Putty powder, fourteen parts; pipe clay, fourteen parts; kieselguhr, forty-two parts; tartaric acid, powdered one and a half parts. The following is a formula for a liquid polish: Kieselguhr, 7 pounds; bath brick, powdered, 3 pounds; oil of lemon, 2 ounces; lemon juice, 1 gallon; paraffine oil, 1 gallon; malt vinegar, 4 gallons.

Several authorities claim that up to a certain point an air-cooled engine will develop more power than a water-cooled motor of the same bore and stroke; but beyond this point they declare the power efficiency of the water-cooled engine increases as that of the air-cooled motor decreases.

### ELECTRIC GASLIGHT IGNITER

Owosso, Mich.—Editor Motor Age—Will Motor Age give a diagrammatic illustration showing how to install an electric gas lighter on a motor car? Will a separate coil have to be used on a four-cylinder car?—H. M. Post & Son.

In Fig. 4 is shown a wiring diagram of an electric gaslight igniter. When the circuit at the switch S, which may be located just in front, to the right, and a little below the driver's seat, the primary, or low-tension, current flows from the positive terminal + of the battery, through the switches and wires P to the vibrating coil. Passing through the coil, the primary current is led through the ground wire G1 to the frame, from which it is conducted back to the negative terminal (—) of the battery through the ground wire G2. As the current passes through the coil the vibrator is set into action, and a secondary or high-tension current is induced which flows through the heavily-insulated wire H to the burner of the gas lamp B; where, as it jumps the gap in the form of a stream of hot sparks, the gas is ignited, and the secondary current returns to ground through the wire G4, the lamp, the frame and the ground wire G2. The secondary



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wire must be thoroughly insulated from the lamp and burner, while a good metallic connection must be made between the lamp, burner and the ground wire G4. The ends of these wires should be about  $\frac{1}{8}$  to  $\frac{1}{2}$  inch apart, and bent so that the stream of sparks will pass through a jet of gas, close enough to the burner not to be affected by the heat of the flame. If there are no piping arrangements so that the gas may also be turned on from the seat, it would be more convenient to place the switch near the tank. A separate coil will have to be used.

### MENDING A METAL FRAME

New York—Editor Motor Age—Through the Readers' Clearing House will Motor Age tell me how to patch or mend the metal frame of a runabout weighing 1,200 pounds, which is cracked through about half way. The crack is near where the transmission suspension meets the frame. Not much of the weight of the engine rests on this part because the front wheels and axle are back about 14 inches from the front of the car. Would brazing hold? If so, could it be done without dismantling the car. If patched with metal, what would be the most economical method? Also advise me how to remove tar which has splashed onto the machine and hardened.—J. P.

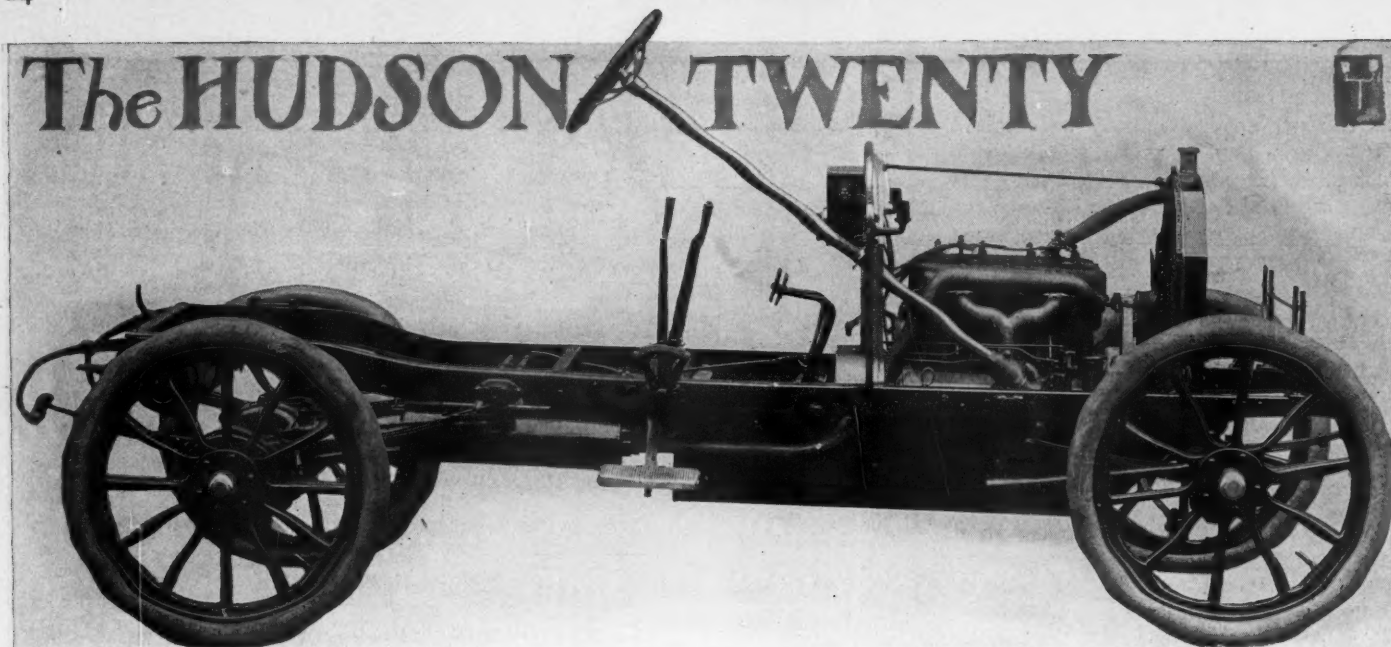
Brazing would hold, but could hardly be done without dismantling the car. If patched with metal the most economical method would be to secure a piece of channel steel to fit inside, and to extend about 6 inches on either side of the injured por-

tion of the frame. If such a section of pressed steel is not obtainable, a channel section made of 5/16-inch sheet steel may be used. The reinforcement should be held in place with two rivets, equi-distant apart, on either side of the crack, through both the top and bottom sides of the frame. Wood alcohol is probably most effective after the tar has hardened; but gasoline may also be used. Tar should be washed off with soap and warm water immediately the car returns to the garage. If left to dry, it is extremely difficult to remove with either wood alcohol or gasoline. As wood alcohol attacks varnish it should not be used on the top of the fenders or the body of the car; in such cases gasoline is preferable, and the use of either should be followed with a thorough washing with soap and water.

### SIZES OF TIRES

Lexington, Miss.—Editor Motor Age—Are the G & J tires, 34 by 3½-inch, heavy enough for a car weighing 2,360 pounds with top, wind shield, water, gasoline and full equipment? If not, what weight car should they sustain?—H. A. G.

The G & J Co. rates the carrying capacity of its 34 by 3½-inch tires at 600 pounds per wheel, with an air pressure of 60 pounds. This is without passengers or luggage. At this ratio, if when the car is loaded to its full capacity, the weight is equally distributed on all four wheels, tires of this size should be large enough for a car weighing from 2,400 to 3,000 pounds complete. The maximum capacity might then be rated at 3,000 pounds.



CHASSIS OF THE 1910 HUDSON TWENTY, SHOWING INTAKE AND EXHAUST MANIFOLDS

ONE of the latest additions to the list of American motor car manufacturers is the Hudson Motor Car Co., Detroit, Mich., which has brought out the Hudson Twenty for the 1910 market. The company has joined the Association of Licensed Automobile Manufacturers and it is expected that the cars will in a great many cities be handled by the Chalmers-Detroit representatives, in that not a few of the men who have been the making of the Chalmers-Detroit product are behind the Hudson car. Notable among these are such names as Hugh Chalmers, president of the Chalmers-Detroit Co., and who is vice-president of the Hudson Motor Car Co.; R. D. Chapin, secretary of the Hudson company and who is treasurer and general manager of the Chalmers-Detroit organization; and Howard E. Coffin, who is vice-president of the Chalmers-Detroit organization and a member of the board of directors of the Hudson concern. In spite of this close relationship of the two concerns, the Hudson is a design of its own in every sense of the word, and is the outcome of the efforts of George W. Dunham, who is responsible for the design. The name Hudson is from J. L. Hudson, president of the company and who is a Detroit business man.

The Hudson Twenty is a low-priced run-about with a four-cylinder L-type motor with all cylinders in one casting, cone clutch, selective gearset, shaft drive, and such acknowledged constructions as dropped frame in front of the rear axle, three-quarter elliptic rear springs, posi-

tive water circulation, and double rear wheel brakes. The car is made with 100-inch wheelbase, 32 by 3 and 3½-inch tires front and rear, and the radiator is located in rear of the front axle plane.

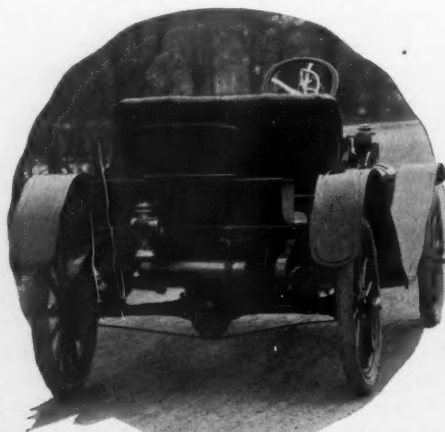
#### Hudson Motor En Bloc

The Hudson Twenty motor is one more of the en bloc, or unit casting type, and has all of the valves located in an integral expansion on the right side, so one camshaft within the crankcase cares for the opening and closing of both intake and exhaust. Unlike the majority of unit motor constructions, there is no attempt in the Hudson motor to incorporate the intake or exhaust manifolds with the cylinder casting, but these are separate and conventional as in any four-cylinder car, and which may be seen by referring to the chassis illustration on this page. The crankcase is a two-part construction, the upper part supporting the plain bearings of the crankshaft and having four arms for sustaining the motor on the sub-frame members. The lower half is made considerably deeper than usual and incorporates within it an oil-well in which is located the pump for circulating and re-

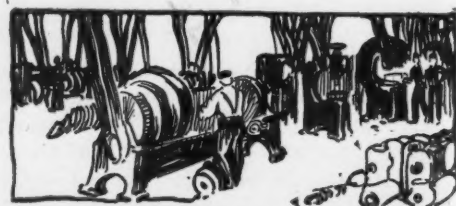
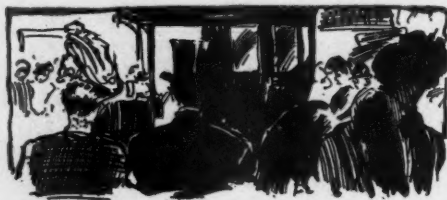
circulating the oil to the different parts of the motor. This oil-well has 2 quarts capacity, and in it is located a plunger pump operated by an eccentric on the camshaft. This pump lifts the oil from the well, and delivers it to the compartment containing the timing gears at the front end of the motor. From this it overflows into the crankcase proper, filling in succession the four oil compartments beneath the four cylinders and into which the four connecting rods dip. When these four compartments are filled to overflowing, the surplus oil escapes through a hole provided for that purpose in the rear of the case and is returned to the oil-well whence it is ready for re-circulation. The system, in brief, is thus a constant circulating splash system. The walls dividing the crankcase into the four compartments are of such height as to maintain sufficient oil level for the connecting rods. As a precaution, however, an auxiliary overflow for the oil is provided at the front end of the crankcase, so that the danger of the forward compartment flooding more than the other three is guarded against. A maximum-and-minimum try-valve is provided in the side of the oil well so it is possible to gauge accurately the quantity of oil in the case. On the right front motor arm a short vertical breather tube with a cone-shaped top is furnished which serves as a filler tube for the oil supply at the crankcase.

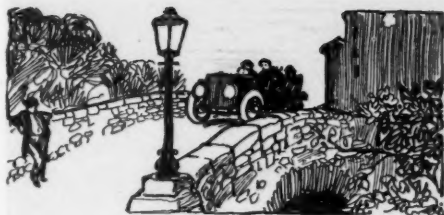
#### Features of Motor

Viewed from a standpoint of structure and design, the Hudson motor bears not a few resemblances to the Renault type.



REAR VIEW OF HUDSON





It has a bore of  $3\frac{3}{4}$  inches, and a stroke of  $4\frac{1}{2}$ , a relationship of measurements quite in keeping with not a few of the present European tendencies. The cylinders have an integral waterjacket, with particularly spacious waterjacket capacity. The circulation of water is entrusted to a centrifugal pump located centrally on the left side and driven through a special shaft, the continuation of which drives the magneto. From the pump to the lowest point of the waterjacket is a short elbow, which is the sum total of the intake piping, excepting that from the radiator base to the pump. A large plate forms the top of the waterjackets, and on it is a short pipe from which a hose connects to the radiator top. Additional cooling means are supplied by a ball-bearing fan, driven by a 1-inch flat leather belt. The fan is supported on an arm cast integral with the gearcase of the motor, and its hub is grease tight with the ball bearings protected by felt washers.

Jump spark ignition is used, the regular equipment consisting of dry cells for current source, the conventional four-part coil, and timer located on the rear end of the camshaft. Provision is made for fitting a magneto at the left rear, this calling for additional price. The commutator is of the Lacosta type, and to facilitate the timing of the valves the flywheel is marked and a steel point located on the crankcase above the flywheel rim at the 12 o'clock position.

#### Hudson Transmission System

First in the transmission system of the Hudson comes the conventional cone clutch in the flywheel, the male member having a leather-faced surface backed up by adjustable flat steel springs to add to

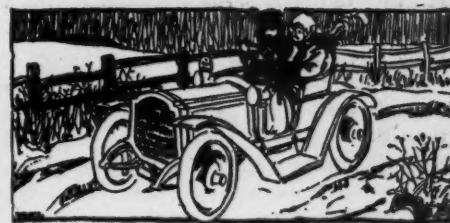


FRONT VIEW OF HUDSON

#### HUDSON SPECIFICATIONS

Horsepower—22.5  
Cylinder Bore— $3\frac{3}{4}$  inches  
Piston Stroke— $4\frac{1}{2}$  inches  
Wheelbase—100 inches  
Front Tires—32 by 3 inches  
Rear Tires—32 by  $3\frac{1}{2}$  inches  
Lubrication—Crankcase system with plunger pump  
Ignition—Dry cells, magneto extra  
Cooling—Pump circulation  
Radiator—Vertical tube  
Clutch—Leather-faced cone with springs beneath leather  
Gearset—Three-speed selective  
Final Drive—Propellorshaft  
Front Axle—One-piece I-beam  
Rear Axle—Semi-floating, roller bearings  
Brakes—Internal and external on rear wheels  
Front Wheel Bearings—Ball  
Rear Wheel Bearings—Roller  
Front Springs—Semi-elliptic, 36 in.  
Rear Springs—Three-quarter elliptic, 44 inches  
Steering—Worm and gear type  
Gasoline Capacity—10 gallons  
Water Capacity—4 gallons  
Seating Capacity—Three

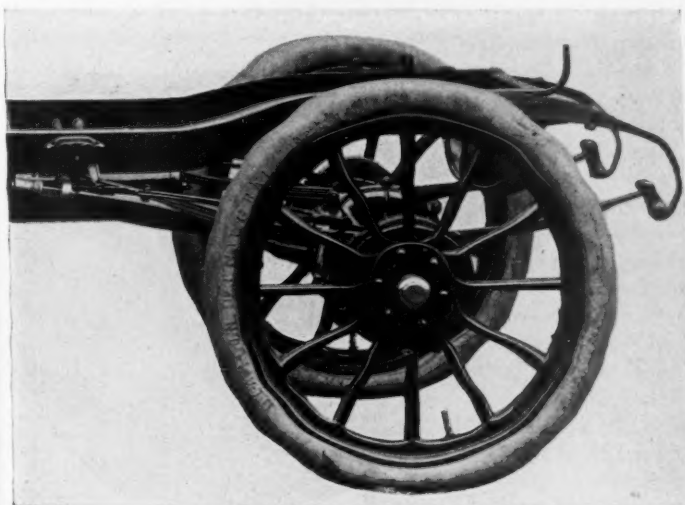
the ease of engagement. The clutch is made with a particularly light cone part to reduce inertia, and facilitate changing of gears. The clutch is supported on an extension of the crankshaft and is engaged by a heavy helical spring with a large ball thrust bearing. The rear end of the clutch hub ends in a block-and-trunnion type of universal joint, back of which is a short propellor shaft connecting with the gearbox. The transmission



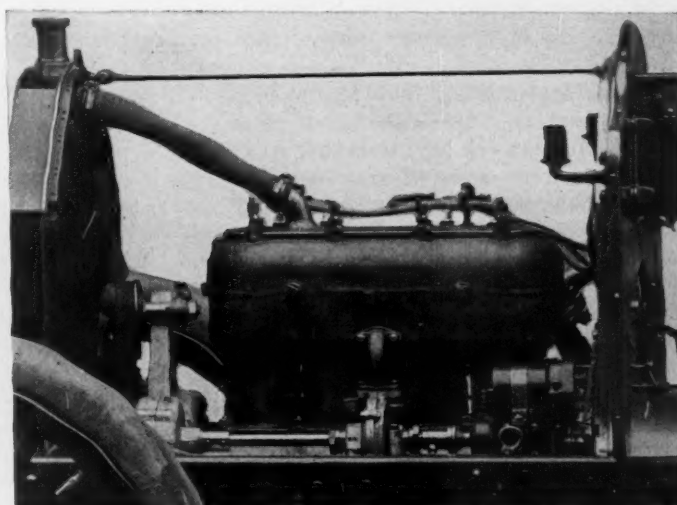
is a standard type offering three forward variations and having the containing case made in upper and lower halves. The main and countershafts are located side by side and both are carried on plain bearings. Both of the gear-shifter rods are inclosed in the gear compartment where they are protected from dust and where their lubrication is attended to. The shafts of the set are of open hearth steel, heat treated and ground all over. Back of the gearbox is the single universal joint of the propellor shaft, which shaft is inclosed in a tubing, connected rigidly with the differential. The rear axle is a semi-floating construction, with the driveshafts supported on roller bearings with ball thrust bearings. On the rear wheels are double-acting brakes, internals and externals, both with friction surfaces composed of asbestos interwoven with wire gauze.

#### Running Gear on Hudson

The Hudson running gear has as its skeleton a pressed steel frame construction, the side members of which have the usual drop in front of the rear axle, done in order to lower the center of gravity of the car, and they are also narrowed from the dash forward to lessen the turning radius of the car. The channel side members are  $3\frac{1}{2}$  inches vertical depth at the deepest point and have  $1\frac{1}{2}$ -inch flanges. Two sub-frame members are used for supporting the motor and gearbox. Supporting the forward end of the frame are 36-inch semi-elliptic springs, but in rear 44-inch three-quarter elliptics are made use of. The front axle is an I-beam forging especially designed for the car, and, as previously stated, located well in front



REAR END OF HUDSON CHASSIS, SHOWING SPRING SUSPENSION



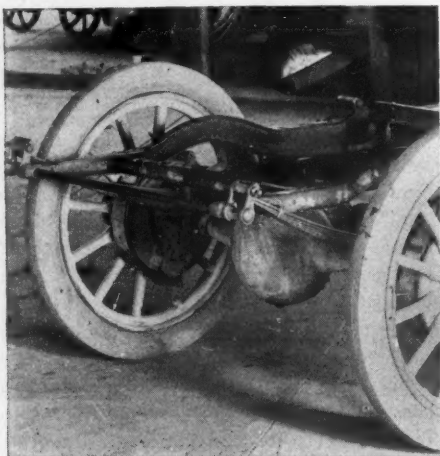
LEFT SIDE OF MOTOR, SHOWING WATER PUMP AND MAGNETO

of the radiator, notwithstanding which the little car has but a 100-inch wheelbase.

The body is of roadster type built on an ash framework, with poplar used in the sills and seat backs. The standard color is maroon with old ivory striping, and black mouldings on the upholstery; an option, however, is granted on battleship gray with apple green striping and upholstery. The regulation seating capacity is three, but an extra rumble seat is added on additional consideration. The car control is standard throughout, with regulation steering wheel, side levers for emergency brakes and gear shifts; left pedal for the clutch, right pedal for the brake; throttle and spark controls on top of the steering wheel, and an accelerator button between the pedals.

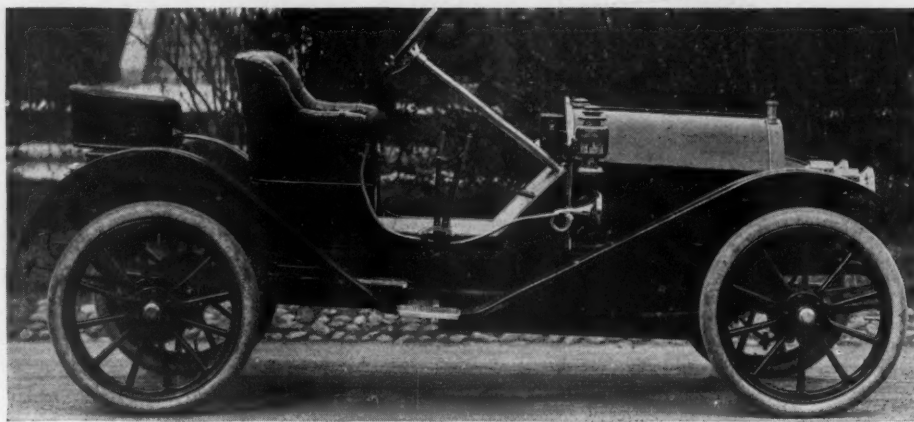
### THE LEXINGTON CAR

One of the first companies to engage in the manufacture of motor cars south of the Ohio river is the Lexington Motor Car Co., Lexington, Ky., which has ready for next year the Lexington car, built in touring car, short-coupled, and roadster



REAR END OF LEXINGTON CHASSIS

models, the chassis for all three being alike, excepting that in the first two the wheelbase is 120 inches, whereas it measures but 116 in the roadster. The Lexington car is largely an assembled product, but one in which the company has made every effort to buy the best of the different parts entering into the make-up of the machine. The motor used in a Rutenber of the 4¾ by 5-inch size, with oiling system incorporated within the base of the crank-case, there being a gear pump on the base of the vertical shaft which lifts the oil to the crankcase parts. The clutch is a cone-faced member with a leather covering provided with cork inserts; the gearbox or transmission is a three-speed selective set with the main and countershafts in the same vertical plane and both carried on annular ball bearings; the propeller shaft carries two universal joints, one at either end; the rear axle is the latest Timken product characterized by a one-piece housing made



SIDE VIEW OF HUDSON TWENTY ROADSTER FOR 1910

without truss rod and having internal and external brakes; the front axle is an I-beam one-piece Timken construction with Timken bearings for the spindles; the side members of the frame are arched in Stoddard-Dayton or Packard style above the rear axle and the car control is conventional throughout.

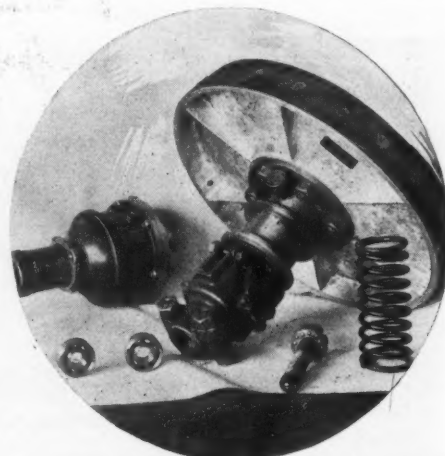
As the majority of Motor Age readers are aware, the Rutenber motor is a four-cylinder type with separately-cast cylinders, each cylinder having an integral waterjacket and valve compartment. Valves are all located on the left side and are opened by one camshaft. An even distribution of parts surrounding the motor is accomplished: On the right side at the front is the magneto when supplied as an extra equipment; and on the left are carbureter and intake and exhaust manifolds; at the right front is a short vertical shaft completely encased in a large aluminum housing. The top of this shaft carries the timer for the battery ignition system, and on the base and in the crankcase is the gear oil pump. The magneto takes its drive from this shaft. The water pump is on the forward end of the camshaft and at variance with general custom the intake water pipe enters the cylinder head and the exit water pipe also connects with the waterjackets at the heads, there being partitions within the jackets to insure complete circulation of water throughout the jacket spaces. The Rutenber motor employs a five-bearing crankshaft, and a belt-driven fan is used in connection with the cooling system.

The gearset is a stock construction with a 33¼ per cent safety factor, it being of the size ordinarily used in a 60-horsepower car. It is supported with the motor on sub-frame members and has a one-piece case, which entirely encloses the shifter rods. Direct drive is obtained by interlocking teeth, one set on the rear face of the masterpinion carried on the short shaft on the front end of the gearbox, and the other set on the forward face of the first sliding gear. The main shaft is formed with four integral keys on which the sliding gears move. The rear axle is a full floating Timken construction with the drive shafts removable by withdrawing

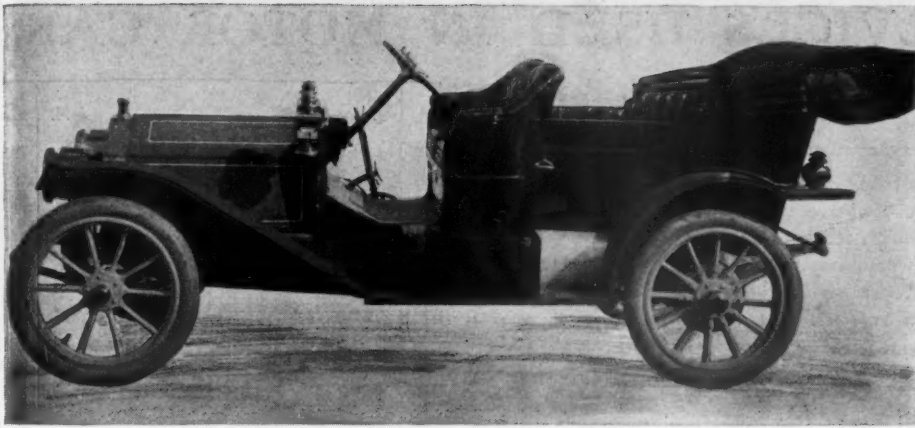
endwise. Each driveshaft carries a clutch on the end for fitting in a corresponding clutch on the wheel hub. Semi-elliptic springs are used in front and rear, the front set 40 inches long with 2-inch leaves, and the rear set 52 inches long with 2½-inch leaves. These springs are filled with graphite to prevent squeaking and a double shackle with tie is fitted to prevent the shackle turning on the road. The bodies used on Lexington cars are made throughout of wood and carry the usual lamp equipment.

### COLUMBIA IN NEW HANDS

The Electric Vehicle Co., of Hartford, Conn., manufacturer of Columbia gasoline and electric cars, has passed out of existence, having been succeeded in business by the Columbia Motor Car Co., of Hartford, which will continue the production of the line of the old concern and also will introduce a six-cylinder model for 1910. The necessary formalities were complied with last week and the officers and directors of the new company chosen. The factory is now being operated under the new management, and from now on the duties of the receivers will be purely nominal and consist in the main of the distribution of the 20 per cent dividend to the creditors. Herbert Lloyd, president of the Electric Storage Battery Co., of Philadelphia, has been elected president of the Columbia Motor Car Co., of Hartford, and Henry W. Nuckols, of Hartford,



FEATURES OF THE LEXINGTON TRANSMISSION



SIDE VIEW OF LEXINGTON TOURING CAR

one of the receivers, has been named as vice-president, treasurer and general manager. The directors are Herbert Lloyd, of Philadelphia; Walter G. Henderson, of Philadelphia; Henry W. Nuckols, of Hartford; William Hooker Atwood, of New Haven, and Kenneth B. Schley, of New York. Immediately after the election of the officers and directors, formal possession of all the assets of the Electric Vehicle Co., excepting cash in hand, was taken by the incoming faction. The assets acquired include the old company's rights under the Selden patent.

As a preliminary to the transfer of the property of the old company, the Morton Trust Co., of New York, released the mortgage for \$2,500,000 which had been given to secure the bond holders, so that the new concern starts off with no indebtedness. The receivers, Henry W. Nuckols, of Hartford, and Halsey M. Barrett, of Elizabeth, N. J., have not as yet been discharged, and a dividend of 20 per cent is now being paid, the bondholders having waived their lien under the mortgage. All creditors will receive the 20 per cent dividend regardless of their holding secured claims or not.

Herbert Lloyd, the new president, was one of the largest stockholders of the Electric Vehicle Co. and was a prime mover in the matter of reorganization. Henry W. Nuckols, the new vice-president

and general manager, is authority for the statement that hereafter the concern will be operated on a larger scale than heretofore. The company has met with good success in the matter of sales this season, in both electric and gasoline models. The 1910 cars are now under way; the first of the lot will be ready shortly. At the beginning of the receivership the various branch houses of the company throughout the country were closed and cars are now marketed through distributing agents.

A certificate amending the certificate of incorporation of the Columbia Motor Car Co., of Hartford, has been filed with the secretary of state and increases the capital stock from \$48,000 to \$3,000,000, divided into 30,000 shares at a par value of \$100 each, 20,000 shares being preferred, or two-thirds of the capitalization, and the remaining 10,000 shares are of common denomination.

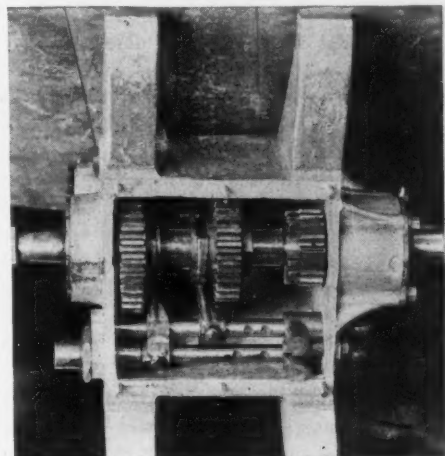
#### POPULAR MOTOR CAR COLORS

Dealers in Pierce-Arrow cars have been supplied recently with samples of thirty-two colors that will be used in finishing cars of that make in 1910 and incidentally the list of colors gives a very good idea of what the buyers of the highest grade of motor cars favor in the decoration of their cars. The color schemes used for 1910 are those chosen from among the most popular shades used on the 1909 cars made by the company. Some surprises would be in store, doubtless, for the man who was asked offhand to name the shades chosen most often. Especially surprised would be those novelists whose rule it is to refer to a touring car as big and red. A table just prepared at the Pierce plant shows that red ran a poor fourth in the season's output. For purposes of comparison the various shades of different colors were not taken into account. The comparison shows that the colors ranked as follows: Blue, 26.57 per cent; green, 25.03; wine, 21.14; red, 10.08; brown, 6.66; gray, 4.60; black, 1.75; white, .31. In addition 2.88 per cent of all the orders received were for chassis to be given simply a lead coat. Although blue leads in this list the fact is due to its being the most popular

in the smaller-powered cars. Last season cars of five horsepowers were made, 24, 36, 40, 48 and 60. It was in the 24, 36 and 40-horsepower cars that blue predominated. In the larger cars, the 40, 48 and 60-horsepower, green prevailed to as great an extent as blue in the smaller lines. Wine color was a consistent third and it proved so for several seasons. It might be held that wine color bordered so closely on red that it could be classed as that, but the wine color used on Pierce-Arrows is so dark as to make the distinction very plain. In the preparation of the thirty-two colors to be shown Pierce-Arrow buyers this season leathers of all finish and colors to the number of over sixty have been secured to match.

#### MOTOR CAR LITERATURE

"Human Nature In Selling Goods," by James H. Collins, published by Henry Altamus, Philadelphia, is a 100-page, vest-pocket volume, treating on salesmanship. Chapter 1 deals on the necessity of salesmanship in marketing goods. Chapter 2, "Banishing Blue Devils," is a careful analysis of the make-up of the success-

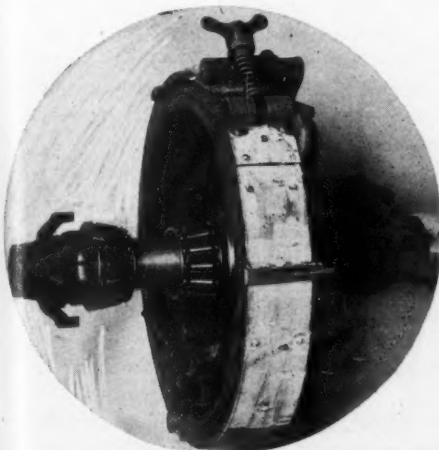


LEXINGTON CHANGE-GEAR CASE

ful salesman and the methods he must use. The third chapter, on "Meeting Competition," covers the field thoroughly, and under the head, "The Training of a Salesman," the last chapter gives valuable instructions along this line.

"Variable Gears In Theory and Practice," published by W. A. Standring, 19 and 21 Wilson street, E. C., London, Eng., is a 150-page treatise on gears. Chapter 1 deals with the theory of epicyclic or planetary set; chapters 2, 3 and 4 are on the application of this, and the remaining chapters give details on the construction of different gears of this type.

"Who Makes What" is a buyer's reference of the hardware trade, published by D. T. Mallett, New York. The names are arranged under states with sub-classifications for towns, and a key scheme which refers to part 2 of the book containing an alphabetical list of the multitudinous merchandise coming under the name of hardware.



LEXINGTON WHEEL BEARINGS AND BRAKES

# ELECTRICAL DEVICES USED IN MOTOR CARS

By Thomas J. Fay

Part XIII

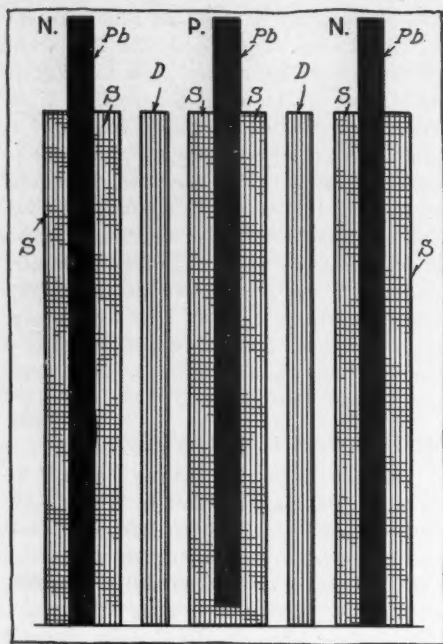


FIG. 36—SULPHATED CELL OF BATTERY

**P**ERSISTENT sulphation so called is present when a cell is discharged below a certain point, thus causing sulphate of lead to grow, isolating the other forms of active material from contact with the grid. When sulphate extends to the grid it is difficult to convert the same, and the condition is designated as persistent. In service, due to the ills of excess sulphate, it is regarded as poor practice to discharge a cell below a certain point. On open circuit when a cell is fully charged if it is in prime condition the potential difference will be about 2.2 volts; a fully-discharged cell should not be allowed to fall below 1.8 volts potential difference measuring the same, not on open circuit but on discharge at the normal rate.

All that should be taken from a cell is the energy due to discharge while the voltage holds above the low point above given, and if a cell is discharged beyond this low voltage, sulphation will be in excess and the charging process following will be under difficulties, with many chances in favor of not being able to readily reduce the excess sulphate to peroxide of lead, which is the formation that must be arrived at if the cell is to be rendered capable of repeating its previous best performance. An over-sulphated cell of battery will be in the condition as indicated in Fig. 36, which is intended to represent sulphate, permeating the whole section of active material of positive plates intermingled with lead oxide to some extent, and peroxide of lead in a small measure with other salts of lead perhaps. The negative plates will be over-sulphated as well; intermingling spongy lead and such salts of lead as are peculiar to negative plates in the overdischarged condition.

Cells of a battery, when they reach an

acute condition of over-sulphation, are coated over with a white deposit, in which condition they are of no use for actual work, and the active material will readily detach from the grids, so that the life of a cell after it has been allowed to sulphate, is but short at best; and during which life it is prone to fall below the accustomed measure of work. Since some active material will detach from the plates in regular service, whether or not excess sulphation is allowed to form, provision must be made to store the detached active material away from the grids to prevent short circuits, for which purpose bridges are placed in the bottom of cells as B in Fig. 37, and when cells are new the bottom of the jar is clean as illustrated. In service as the active material scales off the fine particles of dead material will settle to the bottom, M Fig. 38, and when the process goes on long enough this mud will be in excess as MM Fig. 39, causing a short circuit across the plates at the bottom, which has the effect of reducing the capacity of the cell, besides rendering the same *hors de combat* in a short space of time.

## Cleaning a Battery

Bridges are placed in the bottom of cells in order to protect the plates from the ills of mud accumulations for the greatest possible length of time, but when the accumulation does reach to the elements it is necessary to disassemble the battery, clean out the cells, and assemble the same again, being careful not to damage the elements and to provide good and sufficient separators, so that the elements will not come into contact with each other at any point.

When active material falls out of the elements the capacity of the cells is reduced in proportion, provided the area of the active material is reduced in the process. If the scaling process is uniform all over the surfaces of the plates the capacity of the cells will hold up until the quantity of active material is diminished enough to render the whole amount of the same present deficient for the purpose. Quality in a battery is represented in the greatest measure if the active material holds to its required shape, and if in the scaling pro-

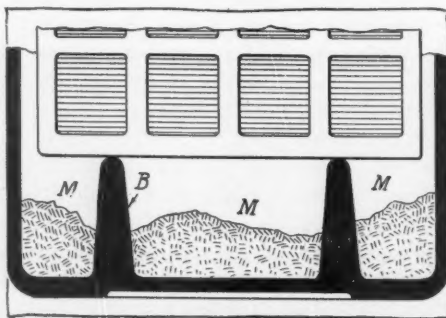


FIG. 38—MUD IN BOTTOM OF CELL

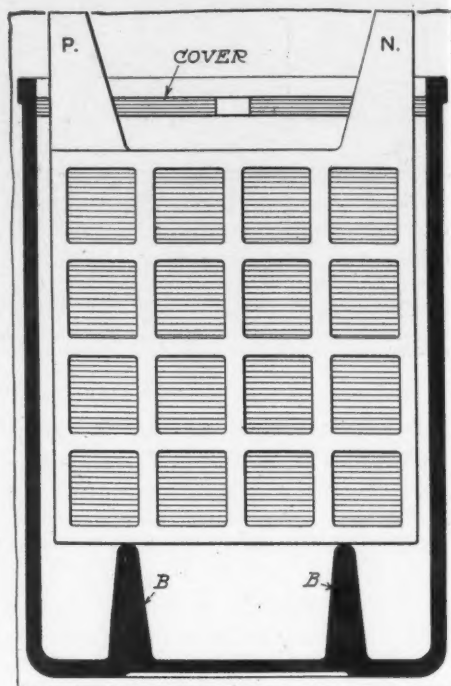


FIG. 37—SECTION SHOWING BRIDGE PLATES

cess the active material falls, not only at a slow rate, but so uniformly that the grids will not be uncovered.

If mud is allowed to accumulate in the bottom of the cells to a point above the tops of bridges and to contact with the elements the active material in the elements will fall out very much as in O Fig. 40, beginning at the bottom of the plates and working upwards. This is due to local overdischarging, which is the more marked in connection with the active material adjacent to the zones of short circuiting, although the trouble soon spreads to the whole surface of the elements if the source of infection is not promptly eliminated.

The active material present in a battery, from what has been said, is a source of much annoyance as well as a necessity, all depending upon the condition of the same and the position it occupies in the cell. If the active material is on the grids as originally applied and if it is in normal formation it is extremely efficient for the purpose, and the battery may be recharged as many times as may be up to the time when the active material is reduced to inactivity, either by falling to the bottom of the cell, or if the state in which it resides is changed to one of inactivity.

## Conditions of Inactivity

Even if the active material does not soften and fall to the bottom of cells it will change its chemical formation most readily especially in ignition service because in this service the cells are discharged at a slow rate for a long time without being charged at frequent intervals. This kind of service is likely to result in a condition of sulphation and the elements will undergo other changes like hardening. This hardening process is most

likely plates cells and others.

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likely to show in connection with negative plates and in practice certain types of cells are more prone to harden than are others.

When the active material of the negative plates hardens the capacity of the plates is reduced because the sulphur will not then penetrate into the section, and activity is absolutely dependent upon the process of chemical change, which cannot go on after the active material hardens enough to exclude the electrolyte. When negative plates reach this condition they will have a lower capacity than positives in the same cell, and they will reach a state of discharge first, after which it is detrimental to go on discharging the cell.

When to consider a battery cell in the discharged state, in view of what has been said, is not a matter that wholly depends upon the potential difference between the positive and negative terminals of the cell. This potential-difference measurement will not tell the condition of the respective plates, and the negative or positives may be in a state of complete discharge before the cell will show a potential difference that indicates a state of complete commercial discharge. By complete commercial discharge the intent is to discriminate between discharging the cell to a condition of zero potential, which is detrimental, and discharging down as far as possible without damaging the cell. In ordinary practice it is regarded as safe to measure the potential difference of each cell in a battery, and when any one cell falls below 1.8 volts potential difference it is looked upon as time to recharge the battery. This practice has its pitfalls for, as before stated, one set of elements may be in a state of complete discharge, whereas the other set of elements may be over capacity.

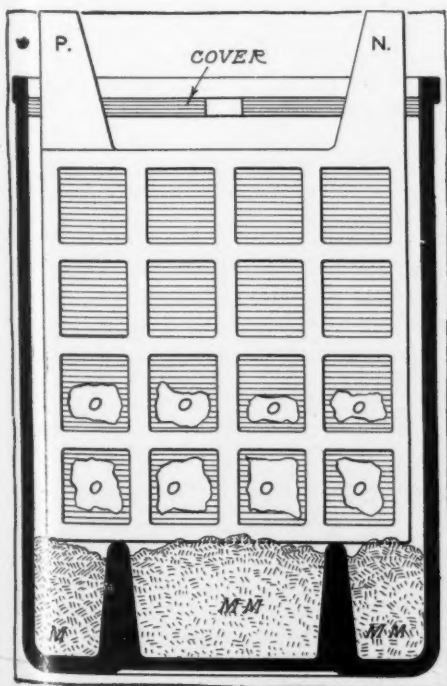


FIG. 40—ACTIVE MATERIAL OUT AT BOTTOM OF PLATE

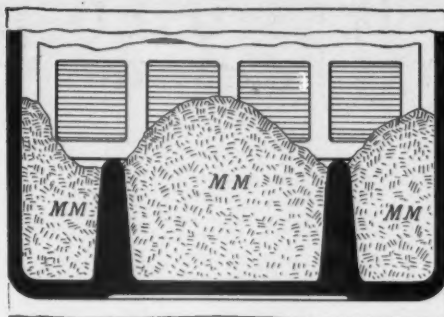


FIG. 39—EXCESS MUD BETWEEN PLATES

Since the maintenance of the capacity of a cell depends upon the competence of both positive and negative elements, rather than upon one set alone or upon an average result, due to their combined ability, it becomes necessary to maintain equality between them from the point of view of output, in so far as it is possible to do so. Since a test by means of a volt-meter across the terminals of the positive and negative elements of a cell will not tell the relative capacities of the elements it is necessary to afford some other means of arriving at the facts, and in practice a separate element made of cadmium is employed for the purpose.

If a terminal made of pure cadmium is attached to the terminal of a volt-meter wire on one side and the other terminal of the volt-meter is attached to one of the elements of the cell of battery the resultant reading will serve as a clue to the capacity of the element. Cadmium is not the only element that will serve for this purpose; zinc is sometimes used, and in some measure other elements will do the work. Cadmium is the better for the purpose.

#### Use of Cadmium.

In selecting the cadmium it is necessary to allow for the ills of impurities, and to take the same from a stock as pure as possible. The cadmium should then be allowed to age by placing it in a cell of battery and allowing it to coat over due to the action of the electrolyte. This coat should never be removed for if it is the readings will be different. In making tests the cadmium terminal must be placed in the electrolyte between the plates in such a way as not to contact with either of them, and a sleeve of rubber tubing may be slipped over the cadmium stick to serve as an insulator, which rubber will in no way interfere with the readings so long as the electrolyte can get to the cadmium, which will be rendered certain if holes are cut in the rubber tube, around the circumference.

The readings to cadmium will serve as a guide to safety, in that they are ever the same if the elements are in the same condition. Between cadmium and positive elements, when the positives are down to 1.8 volts, the reading should be about 2.05 volts, and the cadmium to negatives should, under the same conditions, read .25 volts. Since cadmium is positive to

the positive and negative to the negative elements in an electrical sense the two readings, so taken, will show that the cell as a whole is down to 1.8 volts, for the reason that  $2.05 - 0.25 = 1.8$ , it being the case the cadmium negative readings subtracted from cadmium to positive readings, when both readings are in the same direction, shows the cell proper voltage.

The cadmium readings as above discussed must be made during the discharge of the cell at normal rate; on charge, at the normal rate, when the cell is fully charged the cadmium to positive readings will be 2.35 while the difference between cadmium and negative elements will be about .20; in this case, the cadmium being positive to the positive plate, and negative to the negative plate, it is shown that the negative plate becomes more highly charged, thus reading positive to cadmium, instead of negative, which later condition is shown on discharge.

When a cell of battery is much depreciated the cadmium readings will fail to come up to the values as above given, and in this lack of performance lies proof of depreciation. It is the duty of the user of a battery to ascertain why the readings are undergoing change, and if it is found that the active material is falling out of the grids, something should be done to thwart the process; if the negative active material is hardening, the corrective measures necessary should be taken.

(To be continued.)

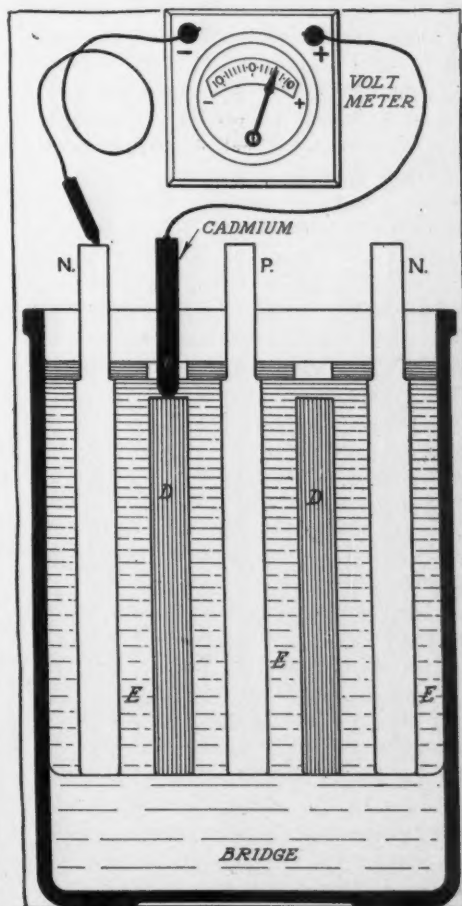
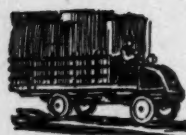
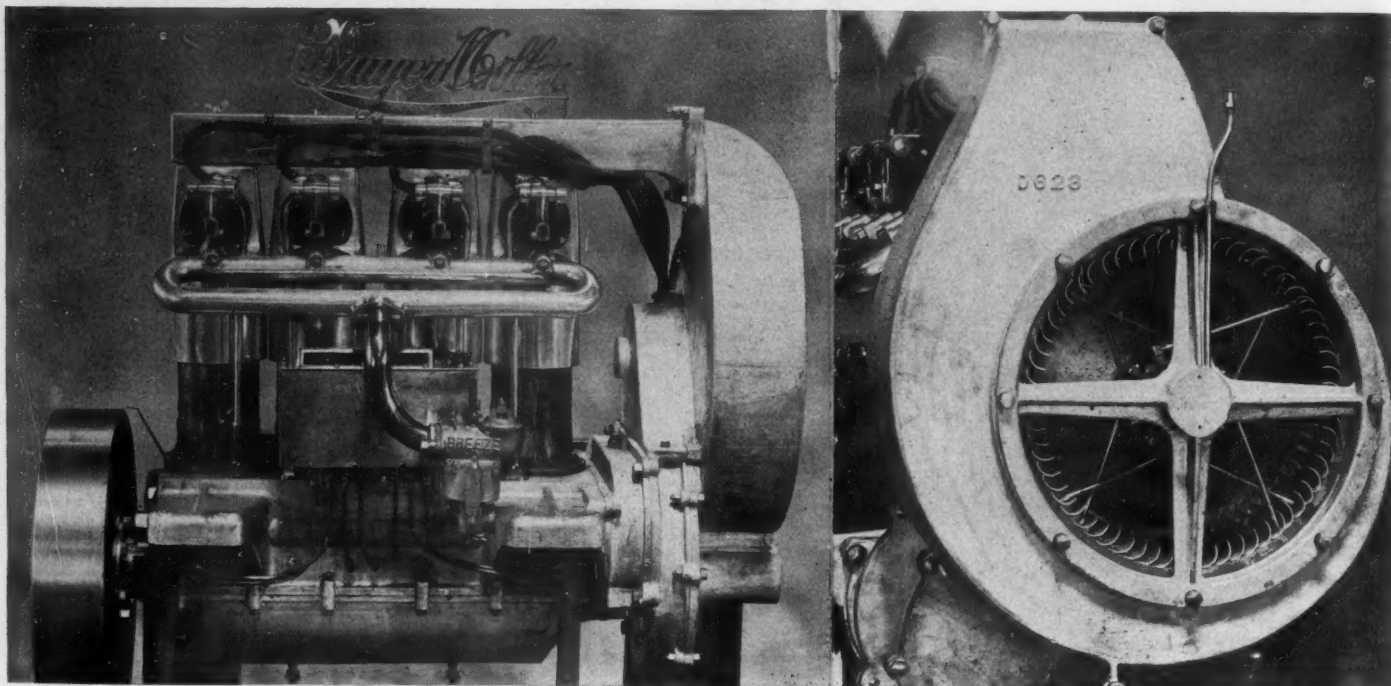


FIG. 41—CADMIUM TEST OF ELEMENTS CLUTCH



# The Realm of the Commercial Car



FRAYER-MILLER ENGINE AND AIR-COOLING DEVICE USED

## FRAYER-MILLER TRUCKS

THE Oscar Lear Automobile Co., Springfield, O., now markets three types of commercial vehicles—one a delivery wagon, another a  $1\frac{1}{2}$  to 2-ton truck, and the third a 3-ton truck. These types all agree in having as a power plant the Frayer-Miller four-cylinder air-cooled motor, in which the cooling is accomplished, as herewith illustrated, by a blower carried on the forward end of the motor and which forces an air draft through a conduit lying over the cylinder heads, and which conducts the air into the top of the aluminum air jackets through which the air is forced and by which means the cylinders are kept at the proper working temperature. The company has adopted the unique scheme of speaking of the motor as the blower-cooled type. In all three models the same motor is employed, using  $4\frac{1}{8}$  by  $5\frac{1}{2}$ -inch separately-cast cylinders with valves carried in chambers above the cylinder heads, the intake on one side and the exhaust opposite, and each set of valves located with the stems horizontal, instead of vertical, as used in the majority of motors of the vertical type. The remainder of the make-up of these vehicles includes a four-speed selective gearset in which are used chrome nickle steel gears and annular ball bearings; short propeller-shaft drive to the jackshaft located just in advance of the rear wheels; and side-chain drive. In the running gear I-beam Timken axles are employed, varying in size in the different types, ranging as they do from  $2\frac{1}{2}$  inches in the 3-ton

## Blower-Cooled Motors

wagon to 2 inches in the next, and  $1\frac{3}{4}$  inches in the delivery. The rear axles are square-section forgings,  $2\frac{1}{2}$  inches to the side, excepting in the delivery wagons, in which they measure  $1\frac{3}{4}$  inches. Timken roller bearings are used in both axles. All three models are built with 36-inch road wheels, but as might be expected, the tire equipment varies, and is as follows: 3-ton truck, front tires 4 inches, rears  $3\frac{1}{2}$ -inch dual type; 2-ton truck, fronts 4-inch solids, rear 5-inch solids; delivery wagon,  $3\frac{1}{2}$ -inch solids in front and rear. An option is given on the wheelbases fitted to all models, but the standard sizes are 128 inches for the 3-ton truck, 118 inches in 2-ton trucks, and 103 inches in the delivery wagon. In these models the frame stock varies, being respectively 6, 5 and 4 inches vertical depth channel for the side members. Semi-elliptic springs are employed in front, rear platform types on the 3 and 2-ton trucks, and elliptics on the delivery wagons. The delivery wagon has both sets of brakes on the rear wheels, whereas the other models carry the foot brake on the driveshaft and only the emergency brake on the rear wheels. The load-carrying space on all three is as follows: 3-ton truck, 12 feet long, 54 inches wide; 2-ton truck, 12 feet long, 54 inches wide; delivery wagon, 79 inches long, 48 inches wide.

Lubrication of the motor is by multi-feed mechanical oiler on the right side, which has the usual number of leads con-

necting to the crankcase and motor parts. Somewhat out of the ordinary is the looped intake manifold, which is shown in the motor illustration.

## DISPLACES NINETEEN HORSES

In almost the identical spot where 60 years ago Indians pitched their tepees and held their councils of war, 1 mile south of the historic old town of Bellevue, Neb., can be seen almost any day a mammoth gasoline traction engine drawing a gang plow that turn eight furrows with every round of the engine. The farm is the property of Henry T. Clarke, Sr., one of Omaha's oldest pioneers. The engine is of the 22-horsepower two-cylinder type. It takes the place of nineteen horses and ten farm hands. Besides dragging the gang plow, it also pulls an immense harrow behind the plow, which puts in shape for the planter 25 acres every day, or more than ten times the amount one man with a three-horse team could accomplish. The engine consumes approximately 40 gallons of gasoline a day, which at about 10 cents a gallon is far cheaper than the wages of ten or twelve hands. It requires three men to run the engine, plows and harrow.

## BRISTOL HAS NEW FIRE WAGON

A type of vehicle that has met with much success for fire use is the combination chemical and hose wagon recently purchased of the Pope Mfg. Co. by the Bristol, Conn., department. The vehicle in all respects is along the Pope-Hartford design. The car was recently run over the road from Hartford to Bristol and a good opportunity to try it out for speed was

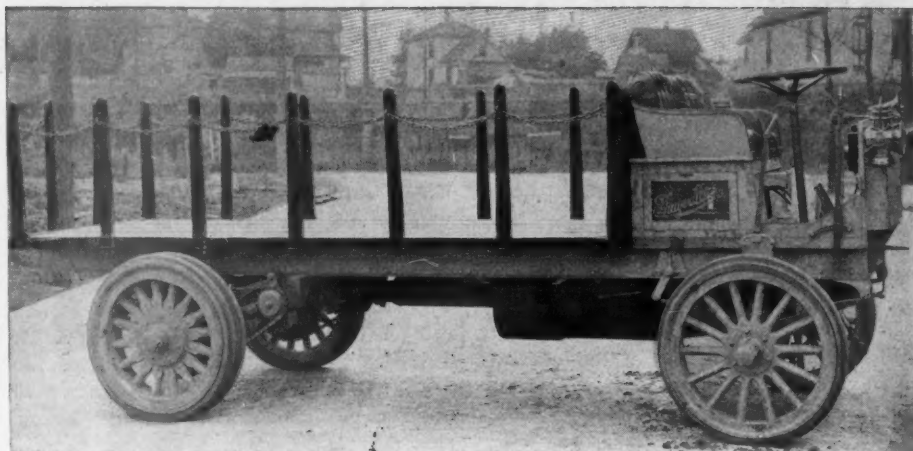
thereby afforded. The trip down was made in 42 minutes. The town officials thereafter conducted a public test of the car. Thirteen persons were piled on to the vehicle and the average weight of each easily approximated 150 pounds. The car got under way from a standing start without the slightest difficulty and a run of a mile, which also took in one of the steepest hills in the town, was negotiated in 3 minutes. The wheelbase of the Bristol car is 118 inches and it has a 40-horsepower four-cylinder water-cooled motor. The tires are 34 by 5 inches. The speed of the car fully equipped is between 35 and 40 miles an hour. A 40-gallon chemical tank, 250 feet of  $\frac{3}{4}$ -inch chemical hose, 1,000 feet of 2-inch hose, two 15-foot ladders, and various other equipment are carried.

#### REMODELS OLD CAR

P. & J. Besse, of Hartford, Conn., one of the early users of commercial cars, have remodeled a two-cylinder air-cooled Knox commercial car with good results. The two-cylinder horizontal air-cooled engine was removed and a four-cylinder vertical water-cooled Continental motor installed, being carried at the forward end of the chassis as in pleasure cars practice. A three-speed sliding gear transmission of the selective type has been fitted and good results have been attained. The radiator was made in Hartford and is carried on the front of the dash. The transmission and motor are mounted on a sub-frame secured to the chassis. Drive is, of course, by double chain. The motor and transmission are closely coupled up, there being little shaft between the clutch, which is of the flywheel cone type and the transmission. The differential is carried on a countershaft much the same as in a pleasure car. The work of remodeling was all done by a local garage and thus far the experiment has worked well.

#### CINCINNATI HAS PATROL

Cincinnati's new police motor car for emergency purposes, built on lines suggested by Police Chief Paul M. Milli-



ONE OF THE FRAYER-MILLER TRUCKS

ken, is expected to be a valuable adjunct to that department. Built by the Thomas company, it is expected that it will attain a speed of 72 miles an hour and seat twelve persons comfortably, and is so arranged as to be quickly shifted into an ambulance to carry four injured persons. Underneath the seats are compartments for carrying ropes, life nets, oil, bandages, stretchers, axes, crowbars, lifting jacks and other articles for emergency. The car will be manned by three officers and an experienced mechanic to be picked by civil service examination. A demonstrator accompanied the machine to Cincinnati and will remain with the officers until they are thoroughly familiar with it. The car is 18 feet long and has a six-cylinder motor.

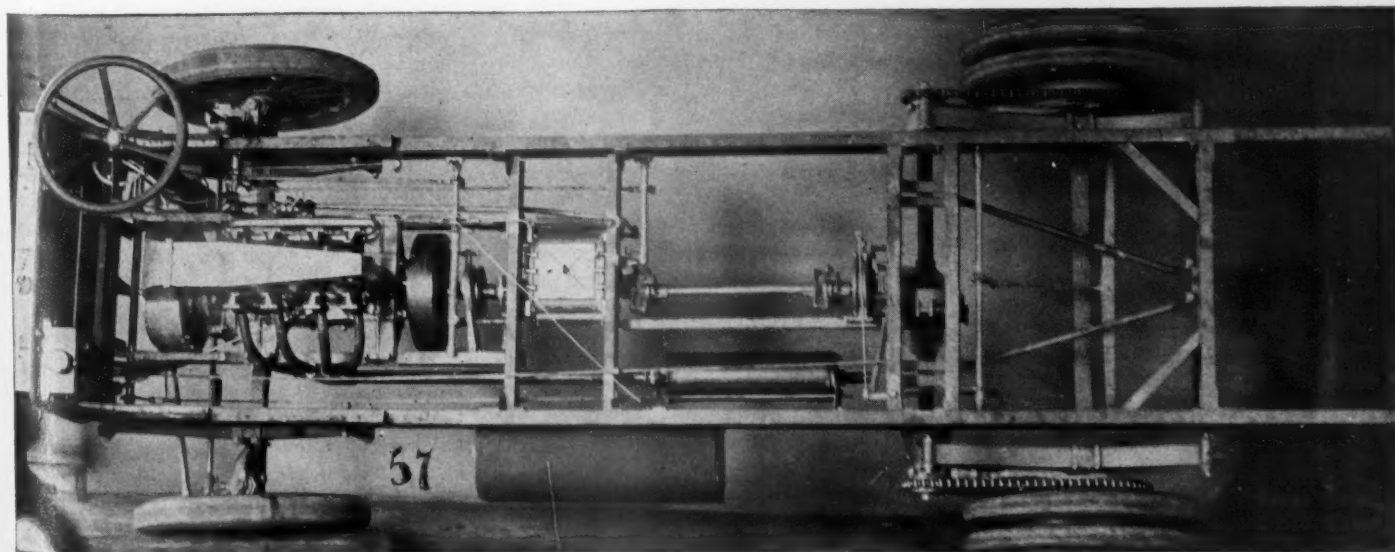
#### COMMERCIAL BREVITIES

A taxicab company is practically assured for Cincinnati in the near future, as local capitalists have proceeded in that direction and are now fully satisfied with the prospects and the result of their investigations. For certain reasons the local moneyed men have not been as forward as those of other large cities in providing this modern form of locomotion for Cincinnati's public, but the near future will

doubtless see a score or more of these vehicles on Cincinnati streets.

The motor truck is invading a new field in Milwaukee, Wis., several of the big commission houses on Broadway, known as commission row, and extending about six blocks from the center of the city to Milwaukee river, having purchased cars of this type for quick delivery and transportation services. Perishable goods, fruits and vegetables constitute the bulk of the business, and it is figured that 25 per cent of the loss incurred in delivery to distant stores and branches in the city can be saved by employing the motor trucks. E. R. Godfrey & Co., 257-259 Broadway, general commission merchants, placed a truck in service about a year ago and the results obtained have so exceeded the expectations that another has been ordered.

The new law regulating the taxicab traffic in New York city has been signed by the mayor. In the future for cabs seating two persons the charge is to be 30 cents for the first  $\frac{1}{2}$  mile, with 10 cents for each  $\frac{1}{4}$  mile thereafter, and \$1 an hour waiting time, while for taxicoaches it is to be 40 cents for the first  $\frac{1}{2}$  mile, 10 cents for each  $\frac{1}{4}$  mile and \$1.50 an hour waiting time.



CHASSIS OF THE FRAYER-MILLER TRUCK, SHOWING DOUBLE TIRES ON REAR WHEELS



# Legal Lights and Side Lights



## TRAFFIC RULES KNOCKED OUT

THERE was a surprising awakening in store for police officials in Boston when various sections of the new Massachusetts motor law went into effect Thursday. At the last minute it was discovered that the new law, as far as motor cars were concerned, had wiped out all the elaborate traffic regulations that went into effect last January as a result of a special act of the legislature of the year before. There was a series of hasty conferences between city and state attorneys, and it was hinted that they did not believe the law went so far. Police Commissioner O'Meara, however, read the law and he saw clearly that conditions had changed and so he sent out a notice to the policemen relative to it. The motorists believe the traffic regulations are a good thing and no doubt they will live up to them, though they have been nullified. Under them motor cars were given the right of way sometimes by forcing slow-moving vehicles to keep to the curbing. There were some streets where vehicles were allowed to proceed in only one direction, but this did not incommode the motorists. So that in general the traffic regulations did not bother them. The city council may put them into effect again by voting on them.

However, it was the speed traps that got a jolt. The Boston park commission had put a limit of 8 miles an hour on Commonwealth avenue and had also insisted on cars going east remaining on the south side and cars going west staying on the north. The police were very vigilant in enforcing this law there. They were also vigilant in working traps under the 12-mile law in different parts of the city. Now the limits have gone up to 15 and the motorists expect to be able to get along very well on that in the city. The country towns then woke up to the fact that the law had a jolt in it for them. So quietly was the bill passed that it was not generally known that all fines went to the state instead of into the towns, as heretofore. Now the town officials in places where traps were run for revenue are wondering just where they are at. In one town the surplus money from motorists had allowed a raise in pay for the firemen. Other towns found the money was handy in other ways.

At Hingham the other day the judge asked an attorney about the fines and learned to his surprise that no allowance was to be made for paying constables to hide behind trees and note the time of motor vehicles, as all the money goes to the state. So that the towns, finding that it will be somewhat expensive to main-

tain traps, will no doubt abolish them in many instances and over-zealous officials will be out of a job.

As an aftermath of the passing of the law, Representative Nason, of Haverhill, who was on the committee on roads and bridges that handled it, spoke to W. A. Thibodeau, counsel for the Automobile Legal Association of Boston, relative to the former's candidacy for the senate next fall. Mr. Thibodeau told him frankly that he would go into the district and oppose him for re-election. As Amesbury is part of the district, and that is where lamps, bodies and cars are made, employing many workmen identified with the motor industry, Mr. Nason will have a fight on his hands. This is but the beginning of a campaign that may cost others who had something to do with framing the bill their seats next fall when the election takes place.

## WRANGLING IN CONNECTICUT

When the senate bill concerning the regulation of motor vehicles in Connecticut passed that body and was sent to the house, the lower house took a fall out of it and sent it back to the senate. The higher body has not taken kindly to all the amendments of the lower house. Inasmuch as the two departments of the state legislature have not come to an agreement the bill will now go to a committee of conference and perhaps before the summer is over, if an adjournment until fall does not take place, Connecticut will have a new law. It has been suggested in the legislature that the old law remain in force. The matter has now been open for some time and the motorists are at times uneasy. An amendment relating to signals was rejected by the senate, and one referring to operation was adopted. The senate was agreeable to raising the age limit of operators from 16 to 18 years, but the amendment requiring dealers to pay a license fee of \$10 was rejected. The amendment requiring motor cars to come to a full stop before passing street railway cars about to stop or at a standstill was likewise rejected, so was that to prevent a city from fixing a speed limit of 10 miles per hour. The senate adopted the amendment fixing a penalty of \$500 fine and 1 year in jail for violation of the speed law. The amendment fixing a penalty of \$100 fine and imprisonment of 15 days for taking a car without the owner's permission was rejected, but that extending the time to 2 years for holding a driver responsible for the death of a pedestrian was adopted. Senator Blakeslee offered an amendment doing away with a license fee of \$100

for manufacturers and taxing \$1 for each engine produced, which was passed. Various other amendments of more or less significance were introduced and some of them rejected. Upon motion of Senator Alsop, the rules were suspended and the bill was immediately passed to the house. The committee on conference is now busy on the measure.

## QUESTIONS DENVER'S POWER

Judge Grant L. Hudson, as attorney for the Denver Motor Club, of Denver, Colo., has filed a bill for injunction in the district court, restraining the fire and police board and the police officers from collecting license fees or permits. The injunction was filed in the name of Dr. Philip Hillkowitz, in behalf of all the members of the Denver Motor Club. The bill is based upon an opinion which has been prepared by Judge Hudson and Redd, Stidger and Benson as attorneys for the club. The opinion begins: "Assuming that the city of Denver, exercising its powers through its city council and highway commissioners and boards of public works, has power to regulate the use of the city streets within the city and county of Denver, is the ordinance adopted by the city council April 12, 1906, and part of the municipal code of said city attempting to regulate the use of motor cars, motor cycles and 'other similar vehicles' on the public streets, in all respects a valid ordinance, and if not valid, in what respect is said ordinance invalid?"

The opinion says that the Denver city government is a unique specimen of its kind; that no city in the union is granted the same powers and authority of municipal control and in the same way and by the same means and methods as the city of Denver. By the amendment of the twentieth amendment Denver was given the power to create its own charter. "A municipal charter is a grant of right, privilege and power by a legislature of a state to a municipality. If it was intended by the twentieth amendment for the city to take and accept such powers unto itself as it desired by its charter and thus its charter became to it a grant of power by delegation from the people of the state, then we must look to the charter of the city for the power which it has assumed to take unto itself."

The opinion further says that the streets and alleys of the city are for the use of the public and that the power to control the use of alleys and streets is in the hands of the legislature. Looking through the city charter, the opinion claims that very little power is retained by the city to regulate the streets of the city.



# News from the Motor Clubs



**Club at York, Neb.**—A motor club has been organized at York, Neb., with Messrs. Post and Tranger, president and secretary, respectively. Permanent organization will be effected later, when it is expected thirty members will be enrolled.

**Hartford Keeps Busy**—The good roads and sign boards committee of the Automobile Club of Hartford, Conn., are carrying out the summer sign-posting campaign. The European symbol signs have been well received and more of this sort will be erected throughout the various sections slated for posting. A club run is proposed to either the Vanderbilt cup race or the Lowell meet. At a recent meeting a committee of five was appointed to look into the Lowell situation and if a run is held at all, in all probability it will be to the latter place.

**Credentials for Evans**—Official credentials on behalf of the United States government were extended by cablegram to the United States consul in London last week to Powell Evans, who is the representative of the A. A. A. at the congress in London of the League Internationale Association des Touristes. Secretary F. H. Elliott of the A. A. A. and S. Boyer Davis, secretary of the Automobile Club of Philadelphia, had a conference in Washington last week with Vice-President Sherman, Secretary of State Knox, and Attorney General Wickersham, relative to the United States government's recognition of the only American representative at this international motoring congress, at which delegates will be present from the leading countries of the world.

**Syracuse Club Grows**—Fifty-two new members were added to the membership roll of the Automobile Club of Syracuse last week. This was the first batch of new applicants passed through as a result of the recent membership campaign started by President Hurlbut W. Smith. It is the intention of the club officers to secure 300 new members before the end of the year, at which time a permanent secretary will be engaged to devote his entire time to office details and club matters. Under the direction of the club an illustrated pamphlet is now being prepared giving road directions from Syracuse to Richfield Springs, a distance of 70 miles, and one of the prettiest rides in New York state. It is the intention of the club to hold a run to Richfield Springs on the evening of July 30 and remain over for the big hill-climb which is being promoted by Gasherie DeWitt, proprietor of the Earlington hotel at that place. Harold N. DeWitt has been appointed chairman of the contest committee by the town board of Rich-

field Springs and Fred J. Wagner, has been engaged as starter for the event, which promises to be of considerable importance in motoring circles.

**Will Use New Track**—According to present indications and the plans of the Cheyenne Motor Club, Cheyenne, Wyo., soon will have a race meet. The fine new 5-mile track just north of town is now receiving its last finishing touches, and already entries are coming in rapidly for the race meet on August 17. Among those already entered for the races are Matson and Knipper, who will represent the Chalmers-Detroit. Harold Brinker is scheduled to drive a Matheson or a Moon.

**Merger Is Defeated**—The Bay State A. A. of Boston held a meeting last week at which the question of a merger with the new Boston Motor Club came up for discussion. President Lewis R. Speare of the A. A. A. was present and he worked hard to bring the merger about, but it was defeated. Instead of there being a large number present there were only twenty-five on hand and the final vote that defeated the question stood sixteen against and nine for the merger. It was something of a surprise, because it was thought that the two clubs had buried their differences and would get together. However, the spirit of antagonism in the Bay State club was too strong and so the hopes of all those who felt it would be the best thing were dashed.

**Motor Club for Detroit**—The Detroit Motor Club was formally organized at a meeting held at the Tuller in Detroit, Mich., last Thursday evening. A constitution was adopted and articles of incorporation were sent to Lansing, following the acceptance of which the organization will immediately take steps to secure an adequate club home which will entitle it to the recognition which it will surely secure as a most material addition to Detroit clubdom. The following officers have been selected: President, Joseph F. Stringham; vice-president, John S. Haggerty; secretary, John Gillespie; treasurer, George S. Lawson; directors, the above and Frank Briscoe, Thomas Henderson, Herbert Flint, Robert K. Davis, Robert Kuhn, William F. V. Neumann, and Charles Grant. In planning the scope of the new club it was agreed that the organization should fulfill the purpose of a gathering place for all motorists, primarily for the owners of cars, but including as well the retail and manufacturing departments of the trade. All these interests are represented on the list of officers given above. The membership limit was placed at 1,000. It is the intention of the organizers of the new club to make it one that does things. It

is intended in no case to trespass upon the scope of the Automobile Club of Detroit, which is essentially an organization of a very exclusive and recreational character, and which is, by virtue of the location of its home 20 miles out of the city, open only during the summer.

**Another in Nebraska**—The Grand Island Automobile Club of Grand Island, Neb., has been organized with the following officers: President, L. M. Talmadge; Dr. Roeder, vice-president, and O. E. Hart, secretary and treasurer. A committee was appointed to draft a constitution and by-laws. The club expects a membership of fifty with which to start.

**Club at Charleston**—Another club has been added to the long string which has been organized in the south in the past few months. This time it is in Charleston, S. C. A club was formed there last Thursday with the following men at the head: President, Wilson G. Harvey; vice-president, E. W. Durant, Jr.; secretary, Lane Mullally, M. D.; treasurer, F. G. Davies; solicitor, J. N. Nathans, Jr. The club will ask for a charter in a few days and will try to promote road races in that city. It will improve the highways and will ask that the New York-Atlanta run go through that city.

**Orphans' Day a National Feature**—Reports which have come in to Secretary F. H. Elliott of the American Automobile Association during the past month from all parts of the country, indicate that national orphans' week has been celebrated to a larger extent this season than ever before, and thousands of little ones have enjoyed a day of happiness and delight. It is an interesting fact that wherever the day has been observed it has given so much pleasure to the motorists themselves that the universal opinion has been to continue these outings on a larger plan, if possible, the following year. From the estimate received at the A. A. A. offices it is clear that over 40,000 orphans enjoyed the hospitality of their motoring friends from fully fifty clubs. In all cases it was not possible to observe the day during the first week of June and owing to weather conditions and other local arrangements several of the orphans' day outings did not take place until toward the end of the month. New York with its entertainment to over 2,400 youngsters, heads the list, but other notable cases which reveal the enthusiasm and hard work on the part of owners were Buffalo, where 1,200 orphans were cared for, Troy with 1,000, Baltimore with an equal number, Brooklyn, through the Long Island Automobile Club nearly 1,000, Denver with 800, Pittsburg 700 and Hartford 600.



# From the Four Winds



**Will Race at Latonia**—A track race meet is scheduled at Latonia, Ky., just across the Ohio river from Cincinnati, July 24. The Latonia race course will be prepared especially for the event. A 100-mile race will be a feature.

**Reckless Driver Punished**—James C. Bicknell, a Camden, Me., motorist, was given a taste of justice at Portland last week for driving a car and wrecking it in the latter city. He was fined \$20 and costs for fast driving, given 30 days in jail for intoxication and bound over in \$2,000 bond for the superior court for misusing property not his own.

**Another Ride for Orphans**—Motor car owners of Shelbyville, Ind., a little county seat near Indianapolis, united in giving the orphans of that city an enjoyable outing a few days ago. In several big touring cars the inmates of the Gordon Orphan's Home were taken to Franklin and Edinburg and return, a distance of 35 miles. The youngsters were supplied with refreshments.

**Separate Show for Cars**—Plans for a midsummer motor car show, to be held in connection with the Iowa state fair, which opens in Des Moines August 27, are being worked out. Heretofore motor cars have been grouped with wagons, buggies and other vehicles, and it is proposed to have a separate building for the former. Several dealers have made application for space, and they hope to induce others to do likewise.

**Motoring in Morocco**—Hadji Ambark, a native of Morocco, who has been spending several days in Milwaukee, reported that in every large city of northern Africa he has seen motor cars, most of them of American make. He says that in Arabia, even, the fine steeds are giving way to the motor car, although not yet in general use, the natives not yet having come to see the utility of the new mode of transportation. The roads are being macadamized through the influence of Americans now residing in his country and no opposition is being offered by the natives.

**Atlantic City Route Improved**—Tourists making the trip from New York to Atlantic City will be pleased to hear, as reported to the A. A. A. offices last week by H. A. Bonnell, secretary-treasurer of the Associated Automobile Clubs of New Jersey, that the only bad stretch of road on this route is between New Gretna and Port Republic. This section of road is undergoing repairs and within a short time it will be in as fine condition as other improved roads in New Jersey. The freeholders of Atlantic City have taken steps not only to widen this road, but to fill it in so that when the tide is at its highest



PACKARD "POWERS THAT BE"

One cylinder of new 3,000-horsepower compound engine for Packard plant and President Joy, General Manager Waldon, Manufacturing Manager Moore and Chief Engineer Huff

the water will not cover the road, as has often been the case in the past, thus making the journey across the meadows easier and more delightful.

**Record by Mrs. Otis**—Mrs. Kenneth R. Otis made a new record for time between Cleveland and Toledo, when she covered the distance in 3 hours 40 minutes actual running time. She was accompanied by Miss Alma Yost and John Damm.

**Little Town Progressive**—The main highway of the town of Wethersfield, Conn., which is located on the Hartford shore route, for a mile or more has been sprinkled with oil in an effort to lay the dust. Suburban towns as a rule make no provisions for laying the dust.

**Hoosiers May Change Route**—It is possible that the Automobile Club of Indiana will change its plans for its annual endurance run to be made in the fall. Until now it was thought the run would be to French Lick, but there is considerable inclination to run to Mudlavia, a northern Indiana resort. If this route is adopted it is possible the Shades of Death will be made a control, with the return trip through Lafayette and Frankfort.

**Ride for Old Folks**—Tuesday, June 29, was old folks' day in Salt Lake City, Utah, and between 3,000 and 4,000 of them came in on special trains from the north and south. The feature of the entertainment planned for them was a motor car ride about the city, for which purpose 350 cars were put in commission. Governor William Spry and Mayor John S. Bransford were members of the reception committee, and headed the parade from the railroad station. It was the first motor

ride many of the old people had ever taken, and at least a few of them had never before seen a car. Bands were used to furnish music and the city was gaily decorated with red, white and blue bunting.

**Will Oil City Streets**—At a recent meeting of the city council of Vancouver it was decided to oil at least twenty blocks of streets in the city, taking the streets which are the most traveled and the most dusty. The property owners will pay 7 cents per lineal foot for oiling the streets in front of their property. The city will bear one-half of the expense.

**Topeka to License Drivers**—Drivers of motor cars in Topeka, Kan., will have to undergo a thorough examination for their fitness to properly operate a car in the future. Mayor Greene has appointed a commission to examine all applicants and unless they have the qualifications licenses will be denied them. No license to pilot a machine will be granted to any one under the age of 18 years. The fees collected by the commissioners will be turned over to the Motor League to be used as a fund for the protection of its members.

**Bond Issues in Ohio**—That Ohio roads are being given unusual attention is shown by the large number of bond sales to secure funds for road improvement purposes recently. A Hancock county bond issue of \$6,500 was sold to the First National bank of Columbus the early part of this week. Attorney Scott Stahl, of Port Clinton, was the successful bidder for \$2,950 bonds issued by the trustees of Bay township. The trustees of Tymochtee township, at Upper Sandusky, will sell bonds amounting to \$8,500 on July 29, and a number of other sales are under way.

**Perilous Feat in Motor Car**—When the people who live in Los Angeles want to go to the summit of Mount Washington they make a climb of a mile in the cars of the Los Angeles and Mount Washington Railway Co. One resident of that city, however, not long ago decided that he wanted to make a more thrilling ascent than that of the ordinary passenger on the inclined railway. He was Ralph C. Hamlin, and he maintained that he could climb to the top in his Franklin motor-car, driving up the roadbed of the railway. Moreover, he proposed on reaching the summit to turn around and drive to the bottom. Between and beside the rails planking had been laid, and over this the car went, Hamlin guiding it steadily up even the steepest grade until the top was reached. The ascent presented the greatest difficulty of the entire test for the car, but it was after Hamlin had turned about and started downward that the supreme test

for the driver was met. Where the mile up had been difficult the mile down was perilous. When Hamlin reached the 42 per cent grade he slid its entire length with locked brakes.

**Will Tour Europe**—Mrs. Longstreth, on East Broad street, Columbus, O., will be accompanied by the family of Daniel McLaren in an extended European motor trip this season. The party sailed from New York July 5 for about 3 months in England and France.

**Tax to Improve Roads**—The Multnomah county Pomona grange in session at Lents, Ore., recently made two resolutions—that a tax of 1 mill on the assessed valuation of all property in the county should be levied next year for the opening and improvement of the public roads in the county, and that the public roads of Multnomah county should not be used for motor car races of any description.

**Checking Over-Zealousness**—The Automobile Legal Association of Boston has issued small tags to its members with the letters A. L. A. on them, and these are being attached to the cars so that officers may realize that they must be sure of their grounds when making an arrest, for the association defends its members in court and most always appeals a lower court sentence. As a result the activity of over-zealous officers are thus being checked because the cost of prosecuting appeals is often more than the small towns can stand in many cases.

**Farmer Gives Good Tip**—That farmers of Wisconsin are becoming more friendly to the motor vehicle was evidenced last week, when L. H. Stevens, of Lancaster, Wis., while touring with his wife, accidentally discovered a new substitute for tire chains through the kindness of a farmer. Mr. Stevens encountered a heavy rain on his way home and found himself without chains and his light car could not get traction. A farmer saw his predicament and after helping dig the car out of the mud suggested he had several log and cow chains that might be useful in wrapping around the wheels. He offered them

to Mr. Stevens free of cost, and they were gratefully accepted. They did excellent service and incidentally furnished a tip to motorists who find themselves in similar predicaments.

**Baldwin Quits Racing**—L. F. N. Baldwin has announced that he is out of the racing game for good. The Dead Horse hill-climb at Worcester, Mass., in which he established a new record, was his last public appearance, according to his statement to President John P. Coughlin, of the Worcester Automobile Club. Baldwin has been identified with steam cars entirely.

**Repairing National Highway**—The work of repairing the national highway from the city limits of Columbus, O., east to the Licking county line, for which contracts were awarded some time ago, has been started. The road, which is one of the most important in central Ohio for motorists, will not be closed during the work. The entire surface will be graded and macadamized and covered with tarvia.

**Orphans Hard to Corral**—It was the intention of the Automobile Club of Hartford to give the Hartford, Conn., orphans an outing during national orphan week, Saturday being the day decided upon. The elements did not favor the project and rain made it necessary to postpone the event. A week later the orphans had some other function to take up their time and since then the club has not been able to secure the orphans for the run. Now then, if the orphans want an outing it is up to them to name the day and date.

**Made Easy For Motorists**—As a convenience to members and Quaker City motorists generally the Automobile Club of Philadelphia has made arrangements with the New Jersey motor vehicle department whereby it can furnish the licenses, registration certificates and tags issued by that state without the delays incident to a mail or personal application to the Trenton authorities. A full supply of those necessities is now kept constantly on hand at the new quarters of the A. C. of P., at the northwest corner of Broad and Locust streets, and Acting Secretary

de Figamere has been kept on the jump ever since the first mention of the new deal was made in the local dailies.

**Big Parade for St. Louis**—Between 500 and 700 cars will be used in a great street pageant the St. Louis centennial celebration in the fall. The parade will be under the auspices of the St. Louis Automobile Club and the St. Louis Automobile and Manufacturers and Dealers' Association.

**Protects Signboards**—Governor Stuart, of Pennsylvania, has signed the bill which punishes by a \$25 fine anybody who removes or defaces index signboards on public roads. Disappointed gunners and the ubiquitous small boy with stone in fist have been wont to batter these unoffending indicators out of revenge or from pure mischief; but now that the amusement is likely to cost money it will not be necessary to renew these signs yearly, as has frequently been the case.

**Missionary Work Paid**—The many complimentary rides given by owners in Worcester, Mass., to the members of the street commission have had the desired effect in improving the roads of the city. At a recent meeting of the commission crosswalks which had been the source of annoyance to motor car drivers for the past 3 or 4 years were ordered repaired. So frequent were the rides given the members of the commission that each member of the commission provided himself with the usual duster, goggles and cap.

**Want Only One Tag**—A movement is on foot, started by the police departments of a number of cities of Ohio, for an amendment to the state law, providing that but one number plate or tag shall be carried on a car. The principal object of the amendment is to provide for better identification of cars driven by careless or reckless chauffeurs. The identification feature of the statute is practically nullified when the car carries two and oftentimes three tags, from various states and municipal corporations. Since the licensing of machines by municipal corporations in Ohio has been declared unconstitutional, there is no need for more than one tag.



PREMIER FLEET STARTING FROM FACTORY AT INDIANAPOLIS TO TAKE PART IN GLIDDEN TOUR



# The Motor Car Repair Shop



IN Fig. 1 is illustrated one of the simplest and most effective jacks now in use. With this device both the front and rear wheels of a car can be raised from the ground in less time than it takes to tell about it. This type of jack has been used at the pits in the Vanderbilt, Savannah and western stock chassis races, and its claimed advantages are as follows: It can be easily and quickly applied without the necessity of crouching down under the car. By simply placing the jaws against the axle and pressing the handle down to the ground the wheels are lifted and securely held up while repairs, adjustments or replacements are being made on the wheels, brakes or tires; all that is necessary to do to let the car down on the floor again is to raise the handle; either one of the wheels, or both, may be raised by engaging one or both of the jaws; the leverage obtained from the long handle makes its operation comparatively free from physical exertion; it is not apt to be carried away unintentionally or otherwise; nor is it liable to be misplaced. It has no moving parts other than the rollers; and the cost of its construction is little more than the price of a jack of the regular type. The long U-shaped handle is made from a single  $\frac{3}{4}$ -inch pipe, the open ends of which are slipped over one arm of each of the bell-cranks. The bell-cranks are wrought iron forgings, and are firmly attached to the axle which is supported by cast iron rollers on either side. To prevent the jaws from scratching the paint, it is well to wrap them with rope, tape or cloth.

## Protects Water System

The sketch in Fig. 2 represents a helical spring inside of a rubber hose connection to the radiator. Wherever a sharp bend occurs in a rubber hose connection, unless some means is provided to maintain its cylindrical shape, it will flatten out, with

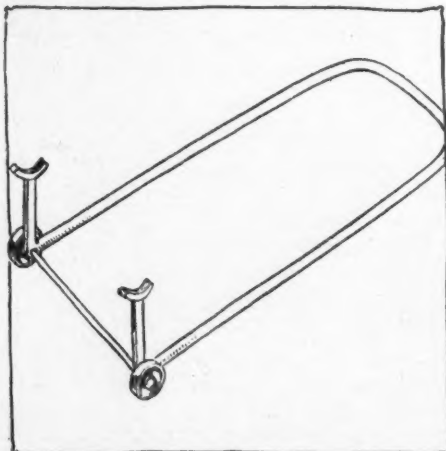


FIG. 1

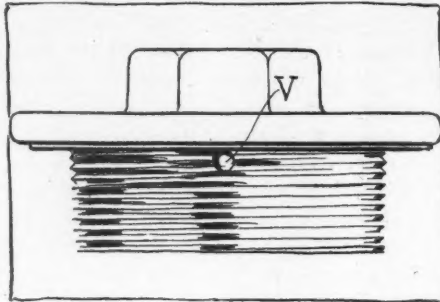


FIG. 3

a tendency to not only destroy the fabric but also reduce the water circulation to such an extent that overheating of the motor may take place. By inserting a spring in the hose, as shown, a flexible and durable connection is obtained which will not lose its shape.

## Hint on Air-Pressure Plug

It is not uncommon to see people rush into a garage to obtain a supply of gasoline; then loosen up the plug on the gasoline tank a few times and wait a couple of minutes for the pressure to leak out; it also is annoying to have the plug fly out and either hit the driver in the face or roll under the car or some other undesirable place, when he does not wait till the pressure has leaked out. All such trouble may be easily eliminated by boring a hole about  $\frac{1}{8}$  or 3-10-inch in diameter at the top of the thread, as shown in Fig. 3, so that when the cap is loosened about two turns the air pressure can rapidly escape.

## Bending Brass or Copper Tubing

To bend brass or copper tubing it must first be annealed. This is done by heating it gently to a cherry red, then plunging it into cold water. Next plug up one end with paper or waste, or, better still, with a wooden plug; then after taking the chill out of the tube by holding it over the fire, fill it with molten lead or rosin and allow it to cool. Tubing of  $\frac{1}{4}$  or  $\frac{3}{8}$  inch in diameter can usually be bent without recourse to a filler if properly annealed. After the filler is cool the tubing may be readily bent without losing its cylindrical shape if properly handled.

To secure a neat bend and prevent marring or denting the tubing bore a hole, just large enough to receive it, through the top of one end of the work-bench near the edge, or if preferable secure a block or hard wood about 3 inches square and 2 inches thick which may be held in the vice, round off the edges of the hole then insert one end of the tubing. Using the other end as a lever bend the tubing to the desired angle. If the protruding end of the tube is too short to give sufficient

leverage, slip a piece of pipe over the end to increase the leverage.

To obtain the proper angles in bending tubing it is advisable to first make a template or a drawing of them. If the bends are in the same plain a drawing of them can be made on the bench or the floor; but if they are twisted, a wire template can be used as a guide. To remove the filler, simply heat the pipe till it runs out, being careful to start the application of heat either at one end or the other.

When purchasing tubing which must be bent it is advisable to secure, when possible, seamless tubing annealed. When tubing with a seam is used care should be taken to keep the seam at the side of the bend, and if not already annealed, do not overheat and open up the seam. Seamless tubing should always be used, for water, gas, or air, connections requiring bending.

## Locating Trouble

There are two ways of finding trouble: One way is to dig right in and test every feature that may in some way be directly or indirectly connected with the symptoms; the other is to carefully weigh the possibilities by first turning the situation over in mind, and after having arrived at a most plausible cause for the trouble, proceed to prove the diagnosis. The first is a hit-or-miss method generally employed by novice and grandstand experts; while the latter is the direct course that is followed by those who would be successful trouble-hunters. The writer has seen days wasted in overhauling an entire ignition system to eliminate a miss that was caused from loss of compression; an entire set of valves ground in to recover lost compression that was caused by a defective valve cage gasket; and an entire set of bearings examined to locate a knock caused by pre-ignition. These are some of the common cases in which much time, trouble and expense might have been eliminated had a little logical forethought been used.

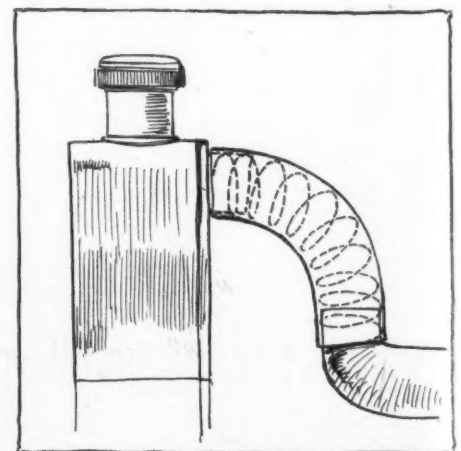


FIG. 2



# Development Briefs



## Motor Car Ornaments

THE Motor Car Equipment Co., New York, has added to its line a variety of fancy ornaments designed for radiator caps. These ornaments include emblems of the different societies, such as Masonic, Elk, Woodman, Knights of Columbia, etc. They are made up in different finishes, such as gold, sterling silver and antique brass of fancy design.



MOTOR CAR EQUIPMENT CO.'S DESIGNS FOR RADIATOR CAP ORNAMENTS

## Asbestos Brake Liners

The latest product of the Empire Tire Co., Trenton, N. J., is an asbestos brake lining which consists of a close-woven asbestos band with a rubber coating placed on each side of it, which is intended to unite the layers of asbestos together. As thin coatings of rubber as possible are used and a hydraulic pressure of 2,000 pounds per square inch is used for vulcanizing them to the asbestos.

## Double Cone Clutch

The Chisholm & Moore Co., Cleveland, O., manufactures a double cone clutch illustrated in Fig. 1, which, although a single clutch of the cone type, has two cone parts, C1 and C2, which have frictional contact with flanges on the flywheel C. The cone parts C1 and C2 always rotate together, but are so mounted that in disengaging the clutch the same movement which brings the cone C1 rearward carries the cone C2 forward, so that both are out of engagement. Both of the cones, C1 and C2, are brought into engagement with the flywheel by the spring S located between them. It is ap-

parent that the entire force of the spring S is used in engagement purposes, in that one end of it presses against the cone C1, forcing it forward against the flywheel C, while the other end of this spring bears upon the cone C2, forcing it backward against the attached ring R secured to the flywheel rim. The action of bringing the cone C1 backwards and carrying C2 forward in disengagement is accomplished, briefly, as follows: On the hub H of the cone C1 is a flange F; and a set of toggle arms T are operated through the cone H so that forcing this cone forward separates the toggle arms T which are pivoted at points P. This movement of the toggle arms results in the inner rollers on the clutch end of the toggles bearing upon the collar F, pushing it rearward, or away from the flywheel, and at the same time the rollers K press forward against the hub part of the cone C2, pushing it forward; thus there is a correspond-

ing backward movement of the cone C1, and a forward movement of the cone C2. By means of this toggle arrangement it is possible to obtain a progressive action of the clutch, so that one of the cones engages slightly in advance of the other, which prevents unnecessary gripping when the clutch is engaged.

## New Socket Wrench

Frank Mossberg Co., Attleboro, Mass., is marketing a new nickel-plated socket wrench convenient for motor-car use. When not in use the handle can be folded as indicated by the dotted lines H. The wrench is well suited for inserting spark plugs, the special S being of length sufficient for this work. The wrench may be furnished with any required assortment of sockets, suitable for the standard hexagon sizes as adopted by motor-car manufacturers.

## Dow Tire Touring Case

C. Merrill, Boston, Mass., manufactures the Dow tire and tool case which can be attached to the running board of a car for carrying tire casings, inner tubes, tools, etc. It is a cylindrical case, capable of carrying two outer casings and within the space accommodating these casings are shelves. The top shelf will accommodate two jacks and a set of tire tools. On the other shelf any desired tools may be carried, and beneath this is space for inner tubes, etc. The entire front face of the touring case is a covering secured by three straps and buckles, making a most handy article for touring purposes.

## Fry Spark Plug

The Standard Sales Co., New York, handles the Fry spark plug, which is manufactured in either the open or closed-end type. The center-electrode is a special-composition metal and the outer electrode machine steel. The porcelain insulator is packed with a copper asbestos gasket, which bears upon the flat surface of the lower shoulder. The porcelain can be changed in a very short time by the driver of the car.

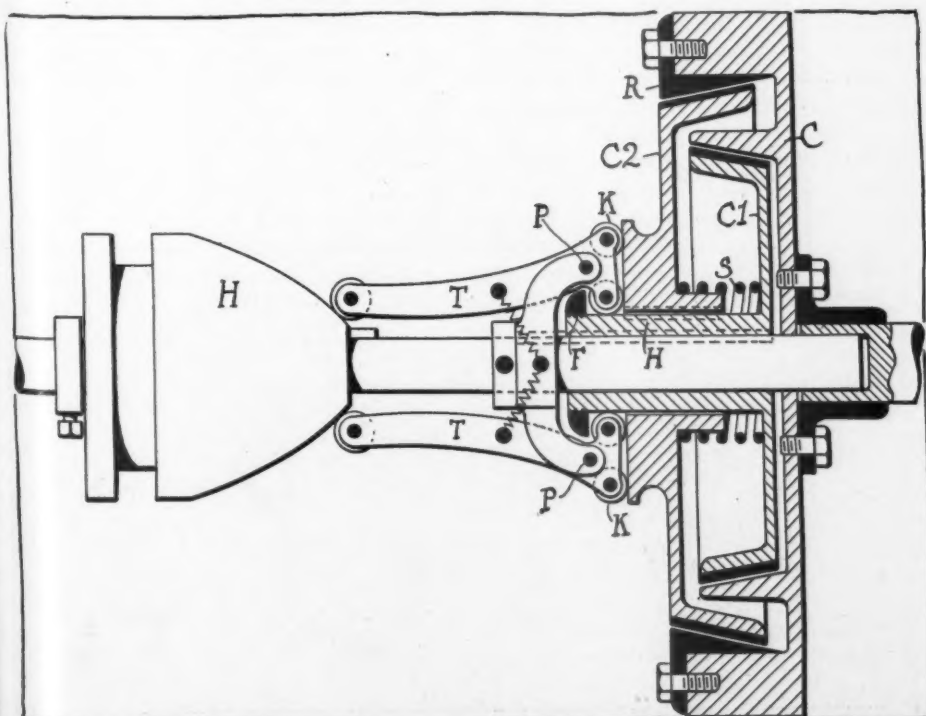
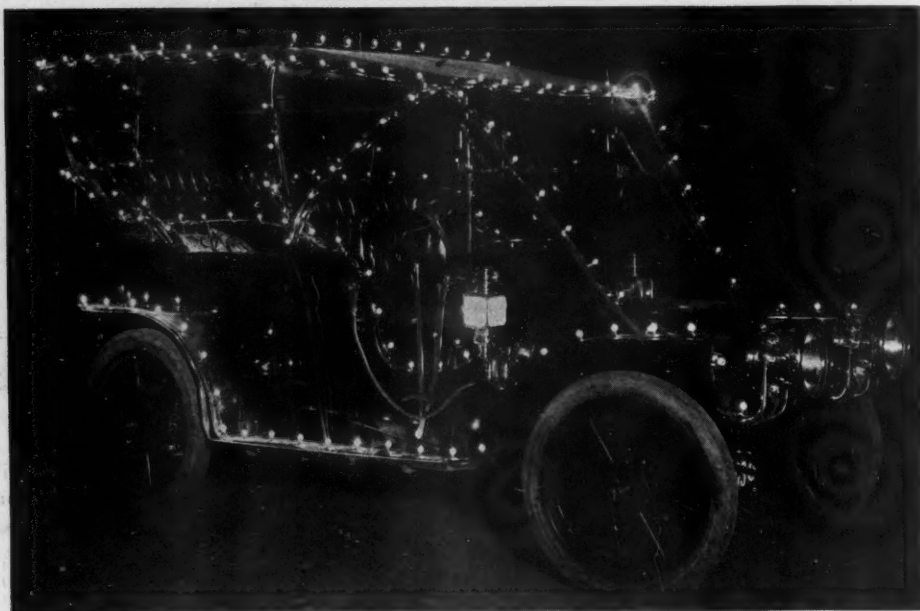


FIG. 1—CHISHOLM & MOORE DOUBLE CONE CLUTCH



# Among the Makers and Dealers



CAR ILLUMINATED BY THE APPLE ELECTRIC SYSTEM

**New Empire Branch**—The Empire Tire Company has opened a branch house at 322 North Broad street, Philadelphia, E. B. Richardson being in charge.

**Lighted by Apple System**—In a recent parade at Dayton, O., the car of V. G. Apple was a feature, being outlined with electric lights. In all 260 tungstens were used, the current being supplied from an Apple electric lighting outfit, giving a most beautiful effect.

**Plew White Agent**—James E. Plew, long connected with the White Company in Chicago, has taken over the retail business in Chicago which heretofore has been handled through a branch. Mr. Plew will soon move into a new building at the south end of the motor colony. The wholesale business of the White in Chicago territory will be handled by W. J. Urquhart, representing the company, who will be located in Mr. Plew's building.

**Big Building Nearly Done**—The new building being erected on Broadway near Fifty-seventh street, New York, by the Goodrich Tire Co. is now nearing completion. The masonry work is finished and the floors, inside trim, etc., will be placed in a short time; also the elevators will be installed. The floors are large, each floor containing over 5,200 square feet, and on account of the size of the buildings on either side, exceptional light and air are assured. The equipment is unusual. The elevator service includes two passenger, one freight and one large motor car elevator; the last named, however, is in a court outside of the building, and this space is not deducted from the available space on each floor. The building is equipped

throughout with automatic sprinkler service and the insurance will be low. The building is of protected steel construction.

**Orders 3,500 Cars**—H. E. Pence, of the Pence Automobile Co., of Minneapolis, announces he has completed arrangements with the Buick Motor Co. for 3,500 Buicks of the 1910 model.

**Establishes Big Plant**—The Baum Iron Co., of Omaha, has established a fire vulcanizing plant at Nineteenth and Howard streets to be used exclusively by the jobbing trade. It is one of the largest and best equipped plants of its kind in the west.

**Not Hampered by Fire**—Fire at 1231 Michigan avenue, Chicago, one morning last week, somewhat damaged the office, accounting department and retail salesroom of the Auto Tire Security company, maker of Kemizite. The fire, however, did not slow the company. The retail department was doing business in the garage 3 hours after the fire, while that same day

400 sets of tires were shipped west. The manufacturing plant is intact and now is operating at its full capacity.

**Miller Opens Another Branch**—Charles E. Miller, manufacturer, jobber, exporter and importer of motor accessories, has opened another branch, this time at 274 Trumbull street, Hartford, Conn.

**Last 1909 Franklin Shipped**—The last 1909 model to be made at the Franklin factory in Syracuse left the plant June 24, shipped to Manifold & Williams, of La Harpe, Ill. Work on 1910 models is now in progress throughout the factory, the two manufacturing seasons having been so united as to leave no interval between the old and new.

**Busy in Indiana**—There is unusual activity in Indiana in establishing and extending motor car factories in preparation for next season's business. At Brook a company is being organized with \$35,000 capital to manufacture cars which will use transmissions patented by W. H. Parkinson, of Rensselaer. The Washington Mfg. Co. has been organized at Washington and is preparing to erect a motor car plant that will employ about 200 men. Hugh L. Warner, who has been running a small plant at Muncie, is preparing to manufacture motor accessories on a large scale. He has purchased a 3-acre site and is arranging to erect buildings.

**Detroit Cars Demonstrating**—Long trips as demonstrations of efficiency have been announced during the week by two Detroit factories. The Hudson Motor Car Co. sent the first of its model Twenty out on a trip which will include in the itinerary Indianapolis, South Bend, Mt. Vernon and Toledo. The car is driven by George W. Dunham, the company's engineer. The Regal Motor Car Co. announced a transcontinental trip for its new 1910 model. It left New York Monday and is scheduled to reach Detroit on Saturday, July 10, to participate in the Glidden day parade. Thence its route will lead to San Francisco, stopping at various points



NEW ST. LOUIS BRANCH OF THE TIMES SQUARE AUTOMOBILE CO.

where the Regal agents are located, in order to give them a speaking acquaintance.

**New Joliet Concern**—The Steel City Automobile Co. has been formed at Joliet, Ill., to handle motor cars and supplies.

**Smith Made Sales Manager**—Ernest L. Smith, of Detroit, Mich., formerly western representative of the Standard Roller Bearing Co., has been made sales manager of the Grant-Lee Machine Co., Cleveland, O.

**Want Lower Water Rates**—The Beaver Mfg. Co., of Milwaukee, has taken the initiative in making the first complaint under the Wisconsin public utilities act against a municipality. The Beaver company and others in that territory demand that the city of Milwaukee materially reduce the rates for water service.

**Will Make Trucks**—The Parr Wagon Co. is making rapid headway in its preparations to manufacture a new commercial truck at Huff station, near Greensburg, Pa., 33 miles east of Pittsburgh. The officials of the company are: President, James A. McAteer; vice-president, R. C. McAteer; secretary and treasurer, M. M. Boyd, all of Pittsburgh, and superintendent, G. S. Garvin, of Greensburg.

**Froelich Inspects Branches**—Jesse Froelich, of the Times Square Automobile Co. and managing director of the Benz Auto Import Co. of America, has just returned to New York from a trip to the west, during which he visited the Chicago branch and the newly established St. Louis headquarters of the Times Square Automobile Co. While in Kansas City Mr. Froelich selected a site at the corner of Seventeenth and Main streets for another new branch of the Times Square business.

**Wisconsin Happenings**—The Shawano Auto Co. has been formed at Shawano, Wis., by P. F. Dolan and Herman Heller. A garage is being fitted up on Main street. The Maxwell agency has been obtained. B. Hernke, of Wausau, Wis., expects to occupy his new garage on Forest street on June 21. An electric elevator has been installed and provision made for charging electrics. The Pierce Motor Car Co., the reorganized A. J. Pierce Engine Co., of Racine, Wis., is installing its new equipment and will soon be ready to start active



RECENT ADDITION TO GLIDE PLANT AT PEORIA, ILL.

operations on a large scale. The Pardeeville Automobile and Supply Co., of Pardeeville, has been formed by W. G. McKay and F. H. Smith and will open garage and salesrooms there.

**Davis General Manager**—The Warren Gear Company of Muncie, Ind., has appointed Charles Ethan Davis, formerly of the American Locomotive Company of Providence, R. I., general manager, the appointment to become effective August 1.

**Pullman Agencies Placed**—The following agents have closed contracts for 1910 for the Pullman line, built by the York Motor Car Co., York, Pa.: Cimjotti Brothers, New York city; Crown Motor Car Co., Boston, Mass.; Meyer Carriage and Auto Co., Buffalo, N. Y.; O. G. Lee, Oklahoma City, Okla.; Victoria Motor Car Co., Minneapolis, Minn.; Shaffer Mfg. Co., Baltimore, Md.

**Meiselbach May Move**—It is authoritatively reported that the A. D. Meiselbach Motor Co., of North Milwaukee, Wis., will remove all or at least part of its plant to Sparta, Monroe county, Wis., and engage in the manufacture of all kinds of motor vehicles. The North Milwaukee plant is at this time manufacturing motors and trucks exclusively. A. P. Meiselbach has been at Sparta for several weeks and suc-

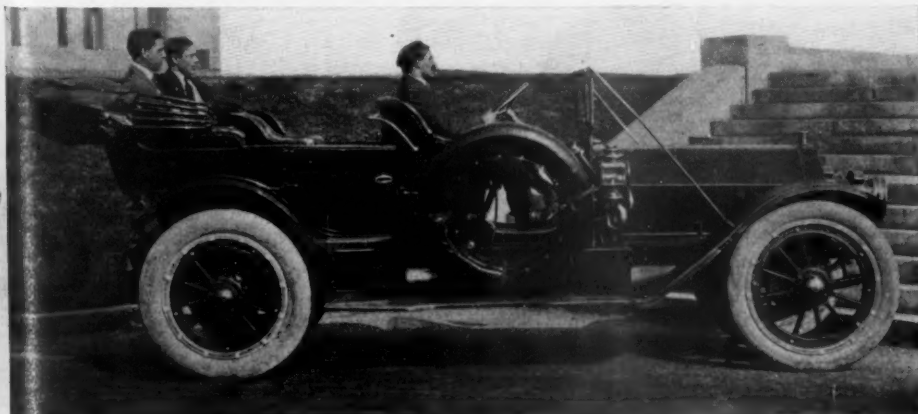
ceeded in obtaining subscriptions of \$20,000 toward the entire proposed capitalization of \$30,000. Milwaukee capital is included.

**Haynes 1910 Plans**—Announcement is made by the Haynes company that it will, in addition to continuing its seven-passenger model, put out a five-passenger car at a lower price for 1910. The newcomer will be known as model 19 and will be ready for delivery about August 15. The company has doubled its capitalization and has a new and aggressive management.

**Can Inspect Taximeters**—The Massachusetts legislature passed a bill last week that gives the state sealer of weights and measures authority to inspect and seal all the taximeters used on cabs throughout the state. There was a fight on the bill at the last minute, as some of the members wanted the police departments in the different cities to have the jurisdiction over the taxicabs. The law goes into effect in 30 days.

**Fisk Builds Big Tires**—The Fisk Rubber Co. claims to have made the largest tires ever built for a motor car. The accompanying picture shows a 90-horsepower six-cylinder Stearns car fitted with Fisk tires and removable rims of remarkable dimensions. The rear tires are 40 by 6 and the front are 40 by 5. Those on the rear are said to be the largest ever made and carried in stock, and while they are rather bulky in appearance they add greatly to the easy riding features.

**Great Western Stock Doubled**—The Model Automobile Co., of Peru, Ind., manufacturer of the Great Western, has doubled the capital stock of the company. It has also decided to build immediately two additional buildings that will increase the floor space approximately 35,000 square feet. The work will be commenced at once and rushed to completion. The increase in capital stock was taken care of by the present stockholders in 30 minutes' time and there is no stock for sale.



STEARNS CAR FITTED WITH 40-INCH FISK TIRES



# Brief Business Announcements



**Amherst, Mass.**—Melrose Paige has opened a garage on Kellogg avenue.

**Boston, Mass.**—The Kilbourne-Corlew Co. is to erect a motor car garage at 15-23 Hawkins street.

**Denver, Col.**—A permit has been granted to G. M. Brickendefer for the erection of a garage at 592 Franklin street.

**Hartford, Conn.**—The Hartford Auto Parts Co. has filed a certificate announcing that the capital stock of the concern has been increased from \$50,000 to \$100,000.

**Atlanta, Ga.**—The Diamond Rubber Co. is about to establish a branch in this city. Arrangements have been made for headquarters at 48 Auburn avenue, and it is expected to open for business about August 15.

**Boston, Mass.**—Articles of incorporation have been filed by the Grout Automobile Co., of Orange. The company has a capital stock of \$150,000 and is to do a general motor car business. W. J. Gould is to be the president and E. S. Hall treasurer.

**New Haven, Conn.**—Plans have been filed for the erection of a new garage at Temple and George streets for the use of the Wheeler & Wuesterfeldt Co., of Meadow street. The new building is to cost about \$21,000 and the work is to be commenced at once.

**Baltimore, Md.**—Proceedings have been brought in the circuit court for the dissolution of the Bridge Garage Co. This concern was incorporated on June 3, 1908, with a capital stock of \$10,000. All the assets of the company have been turned over to the New Bridge Garage Co.

**Washington, D. C.**—A new district branch of the White company is to be established in this city. The office is to be located at 1124 Connecticut avenue, and is to be under the management of F. I. Chichester, and will be under the control of the eastern branch of the company.

**Boston, Mass.**—The Malden Auto Express Co. has bought the business of the Benjamin & Vaughan express, which has been running an express route between Boston and Malden, and in the future all business is to be transacted at 374 Main street, Malden square. Five trips a day are to be made.

**Bath, N. Y.**—It has been announced that the Kline Automobile Co., of York, Pa., has purchased for 50 cents on the dollar the controlling interest in the Kirkham Mfg. Co., of this town. The new company is bound to remain here for 2 years, and is to engage in the manufacture of motor cars and motors and is to increase the working force to 100. Charles B.

Kirkham is to remain in charge of the mechanical department.

**San Francisco, Cal.**—The Pacific Motor Car Co. has leased on private terms the garage at 370 Golden Gate avenue.

**Houston, Tex.**—Mosehart & Kellar, who already represent several first-class cars, have taken the agency for the Waverley electric.

**Atlantic City, N. J.**—The Penn Auto Supply Co., of Philadelphia, has opened a local branch at 2006 Pacific avenue. W. C. Price, who has been connected with the Hartford Rubber Works, is to act as manager.

**Birmingham, Ala.**—The K. E. Auto and Electric Co. has been incorporated with a capital stock of \$10,000, and is to deal in motor cars and electrical supplies and to do repair work. Kyle Elliott is to be the president, T. G. Erwin vice-president and L. S. Kyle secretary and general manager.

**Pittsburg, Pa.**—Application is shortly to be made for a charter for the Vulcan Motor Vehicle Co., which is to engage in the manufacture, sale, renting and operation of motor vehicles, and is also to deal in motor supplies and accessories of all kinds. Another new concern to make application for a charter is the McCurdy-

May Co., which is to deal in cars and supplies.

**New York.**—The De Luxe Auto Co. has leased space in the Automobile building at Broadway and Sixty-fourth street.

**Trenton, N. J.**—Horace Hawkins, who has been acting as agent in this city for the Cadillac, has removed to Princeton, where he intends engaging in the motor car business.

**Poughkeepsie, N. Y.**—It is understood that the Fiat Automobile Co. is to take the site on the Frazier property of the old Livingston's woods place. A number of other concerns are looking for sites in this vicinity.

**New Haven, Conn.**—A motor bus line has been started on Orange street. The line will commence with two stages, to be added to as the patronage requires, and are to be run from Church and Chapel streets, through Elm to Orange street, and to the foot of East Rock.

**Carleton, Mich.**—It is likely that a motor bus line is to be established between this town, Flat Rock and Rockwood, running on a schedule, and connecting with the Detroit, Monroe and Toledo electric line at Rockwood. Alexander Ropelle, of Detroit, is the promoter of the scheme.

**Boston, Mass.**—Work is rapidly progressing on the new building of the Kilgore Mfg. Co., which is to be used as an attaching department. The building will accommodate ten cars at a time, and is to be fitted with cement floors with large pits for the work of attaching the shock absorbers.

**Richmond, Va.**—The Automobile College of Washington has filed articles of incorporation at Alexandria. N. Hill is to be the president, R. H. Blakesley vice-president and L. J. Murphy secretary and treasurer. The concern is to teach the use of motor cars, running, selling and exhibiting the same.

**Canton, O.**—The Berger Mfg. Co. has voted to increase the capital stock of the concern from \$2,000,000 to \$5,000,000, in order to permit an enlargement of the business. The company took up the manufacturing of motor car specialties a short time ago, and is now planning to go into the making of motor cars.

**Detroit, Mich.**—The Demotear Co. has been incorporated with a capital stock of \$100,000, and is to manufacture a low-priced car designed to fill the gap between the motor cycle and the runabout. Frank T. Lodge, who is the treasurer of the new concern, has announced a factory will be built as soon as a suitable site can be obtained.



**Boston, Mass.**—Waterhouse Carburetor Co., capital stock \$100,000; to manufacture and deal in motors of all kinds. H. D. Waterhouse is named as the president and Frederick C. Hersee, treasurer.

**Brooklyn, N. Y.**—Peerless Garage and Sales Co., capital stock \$5,000; to deal in and repair motor cars. Incorporators, F. Dunham, W. T. Sandall.

**Albany, N. Y.**—Eastern Auto Transit Co., capital stock \$35,000; to operate a motor stage line between Albany and Schenectady, N. Y. Incorporators, W. A. Cryne, E. D. Wintersteen and C. B. Henry.

**Dover, Del.**—Consumers' Auto Supply Co. of Pittsburg, capital stock \$25,000; to manufacture and deal in supplies of all kinds for motor vehicles. Incorporators, E. C. Negley, M. L. Kain and B. L. Slonecker, of Pittsburg.

**Chicago**—Edgewater garage, capital stock \$5,000. Incorporator, C. C. Collins.

**Chicago**—Arrow Taxicab Co., capital stock \$5,000; to manufacture motor cars, accessories and supplies. Incorporators, W. A. Jennings, O. G. Finkelstein and P. H. Bishop.

**Detroit, Mich.**—Regal Motor Car Co., capital stock \$100,000. Incorporators, Charles E. and John E. Lambert.

**Dallas, Tex.**—Auto Drivers' Association, no capital stock. Incorporators, H. E. Williams, W. M. J. Caspary and J. Y. Mayfield.

**Far Rockaway, N. Y.**—Philip C. Travers Mfg. Co., capital stock \$50,000; to manufacture motor car and carriage supplies. Incorporators, Philip C. Travers, Lewis Pearl and George C. Breng.

**Mt. Morris, N. Y.**—Mount Morris Auto Co., capital stock \$2,500; to deal in motor cars, and will also run a motor passenger and baggage transportation route. Incorporators, F. P. Conlon, B. S. Beuerlein and A. F. Dake.